The Author attempted to expand his efforts towards the manufacture of foods for livestock and the manufacture of the agricultural fertilizers (Fig. 2).

Fig. 1. Typical appearance of the Acetogen cells [21].

Fig. 2. Proposed by the Author use of the collected Acetogen biocatalysts biomass after the Carbon Negative fuels extraction.

Materials and Methods

The metabolic engineering of the Acetogen biocatalyst to manufacture acetone from the air CO_2 comprised inactivation of phosphotransacetylase via integration of a cassette comprising synthetic genes *erm*(B), thiolase and HMG-CoA synthase. Acetaldehyde dehydrogenase was inactivated via integration of a cassette consisting of synthetic genes *cat*, HMG-CoA lyase and acetoacetate decarboxylase [16]. The metabolic engineering of the Acetogen biocatalyst to manufacture acetone from the air CO_2 comprised inactivation of phosphotransacetylase via integration of a cassette comprising synthetic genes *erm*(B), thiolase and HMG-CoA synthase. Acetaldehyde dehydrogenase was inactivated via integration of a cassette consisting of synthetic genes *cat*, HMG-CoA lyase and acetoacetate decarboxylase [14, 16-18].

Resulted Carbon Negative fuel DAA was successfully used in both Gasoline consuming 2001 Toyota Camry and the fancy Peugeot 2008 for 20,000 miles each car.

Certified mechanics from the Toyota and Peugeout dealerships were invited to the corporate garage of our corporations to meticulously check stated cars driving and mechanical damages, especially in thew engine compartments.

Development of Carbon Negative Foods.

The genetic engineering of the fungi performed as described before for the genetic engineering of the Acetogens-biocatalysts

At the first step the Author has eliminated fungi genes not essential for the fungi maintenance and propagation [1]. At the second step of genetic engineering of fungi is the cloning in fungi of the recombinant genes of lamb and other animals (not listed herein) or the genes of tomatoes, potatoes, cabbage, bread and spice, depending on the target organism and product selected.. Said genetically engineered fungi will be cultivated in the sterile environment at the corporate site.

The special care will be taken about the contracting capabilities of the genetically engineered muscle tissues allowing the muscle tissues of said genetically engineered creatures to grow as the natural muscle tissue has to grow with the training of the muscle owners.

Genetically engineered meats.

The Author trusts that his energy and cell components of the Carbon Negative manfacturing system developed recently for the engineered Acetogen Biocatalysts should work well without any complications in genetically engineered fungi (the species has to be determined yet) containing the genes of lamb structures as thought originally should work without any problems in genetically engineered fungi (the species has to be determined yet) containing the genes of meat production. Original thinking of the Author was about the lamb originated genes, but that might change at the level of operations. A variety of genes encoding various meat structures must be engineered to add the smell and the feeling at the teeth during chowing the exact feeling of the meat structures consumed. Like the sensation of cracking the rib, cartilage, etc.

The special care will be taken about the contracting capabilities of the genetically engineered muscle tissues allowing the muscle tissues of said genetically engineered creatures to grow as the natural muscle tissue has to grow with the training of the muscle owners.

Genetically engineered tomatoes, potatoes, cabbage, etc.

The Author trusts that the energy generation and cell components structures creation could be produced by the Carbon Negative system genome developed recently for the engineered Acetogen Biocatalysts [2-18] should work well without any complications in genetically engineered fungi (the species has to be determined yet) containing the genes of respective vegetables production. The Author eventually will not be able to provide the exposure to the Sun light and the fresh air of said genetically engineered tomatoes, potatoes, cabbage and other vegetables which have to be maintained under the sterile conditions over the lifetime of the genetically engineered fungi-based systems.

Genetically engineered bread and bread-based products

The Author trusts that the energy and cell components Carbon Negative system developed recently for the engineered Acetogen Biocatalysts should work well without any complications in genetically engineered fungi (the species has to be determined yet) containing the genes of respective bread and bread-based products production. The Author has to engineer and design the system for baking of said genetically engineered bread and bread-based products. Eventually there will be certain problems with not properly cooked genetically engineered bread and bread-based products.

Genetically engineered Spices

The Author has given great thought about spices. Any food especially genetically engineered one has to have salt and spices. The Author did not think about the genetic engineering of salt, it has to be available with no limitations. But genetically engineered spices based on pepper and other components used to produce spices have to be engineered. The Author trusts that the energy and cell components Carbon Negative system developed recently for the engineered Acetogen Biocatalyst should work well without any complications in genetically engineered fungi (the species has to be determined yet) containing the genes of respective genetically engineered pepper and other components giving the taste of spices. The salt will be added to such genetically engineered spices as the powder which can be sterilized as usually to get into the sterile genetically engineered environment, or there will not be any need for that.

Results

The Author was very happy when all his planned herein experimental parts of the use of the Carbon Negative replacement of Gasoline worked as described before [2-11, 13].

Data on testing of the Carbon Negative fuel use in real Gasoline and Diesel fuels vehicles. Results on no any visible defects in the vehicles or vehicles misbehavior while driving

The certified mechanics from the respective car dealerships meticulously tested the respective corporate cars at the corporate manufacturing site and drove said cars on the roads nearby the manufacturing site meticulously to reveal any damages caused by the replacement of the Gasoline by the suggested Carbon Negative Gasoline

replacement or its mixture with the DAA (the runs at normal TX temperatures fro all the time). The cars were placed on the treadmill with the device to check the engine emissions.

No unusual emissions in the cars exhausts

No unusual engine emissions were noted by said mechanics for all tested corporate cars. Then the mechanics made the test drives of the each said vehicle. No any mechanical or any other damages to the engines of the all said cars were ever revealed upon said thorough testing. Test drives of each said vehicle by the certified mechanics did not reveal any abnormal driving behavior in any of said cars. The mechanics still did not make any further recommendations on the following use of the Gasoline and the Diesel fuel replacement leaving for the Author the possibility of reporting this very good news to the general public. The gas mileages of the cars used to test the Carbon Negative fuel Isobutanol as the replacement of Gasoline were 37 mpg on the highway and 31 mpg in the city of Brownsville for all tested herein cars. You can easily calculate the average gas mileage from said numbers. But the overall picture looks to us very promising since the gas mileage even slightly exceeded the Gasoline from petroleum use mileage in Toyota Camry. Due to the limited number of the tested cars we cannot make any predictions for the other car makes and the cars made before the year of 2020. This will become the risk of the other car owners, who will decide to replace their gasoline with the produced from the air CO_2 carbon negative Gasoline replacement. If you remember our corporate goal is to replace all the petroleum use by the use of the air CO_2, initially to resolve the issue of the transportation problems, substantially increasing the air CO_2 content via the

air CO_2 accumulation and eventually to decrease the air CO_2 content causing the fresh water loss to the outer Space vacuum as stated before.

Fuel efficiency of the new Carbon Negative replacement of the Gasoline and Diesel fuel

The new gas stations selling Carbon Negative DAA along with the genetically engineered foods and normal foods for home cooking of the customers showed pretty much promising tendencies of the improved sales of both the Carbon Negative fuel and the foods for the home cooking and consumption. Apparently customers really appreciated the opportunity to save their time while visiting said new version of the gas stations selling also foods for the households. Saving of the customers time was our primary priority and the new route to improve sales of the carbon negative fuels. Basically we have reached our goal; the new kind of the gas stations will probably replace the existing gas station selling only snacks and Gasoline and Diesel fuel manufactured from petroleum.

Discussion

The purpose of this writing is to continue convincing the readers of the need to replace the international petroleum corporations by the corporations producing Carbon Negative fuels from the air CO_2. When the Author has arrived to Houston in 1998, the sky was always blew except several days of tornado like weather. Sun was always in the sky which was totally blue. Twenty plus years later the sky is always cloudy, it is always rain or somewhat fresh water precipitation especially when the lower level wind changes its direction. Global warming with all the associated with that effects. We would get concentrated on one of them: fresh water loss to the outer Space vacuum.

Briefly we will remind the readers that the CO_2 is one of the heaviest gases of the air blend. Its density is 1.97 g/m^3 [1]. The average air gas blend density is 1.22 g/m^3 [1]. Therefore the air CO_2 is covering the Ground. The Ground is the natural trap for all falling fresh water: rains, meting snow, ice, etc. Ground is the start for all creeks, rivers, lakes and ponds [1]. In the southern US states the Ground temperature in summer exceeds water boiling temperature under the normal pressure. The air CO_2 selectively absorbs the Sun infra red energy converting it to heat energy and the air CO_2 is covering the ground, the refuge for the fresh water. Therefore, water is boiled there and no water comes to where it is supposed to come - to rivers, lakes and ponds. Even without boiling in the Ground fresh water vapors are produced enormously and enrich the air. In general, NASA has investigated the effect of the Global Warming due to the factors discussed above and the additional factors. Air CO_2 is the same CO_2 which naturally absorbs Solar infra-red energy and converts it to heat. Global increase of temperatures fro 2-6^{o}C is proposed by NASA [30].

There is the Governmental picture of the fresh water reserves on our planet Earth (Fig.3). The air thickness is only 400 miles and the air is attached to the Ground by the Gravity force. The other side of the Earth atmosphere is the Space vacuum above the air layer wide only as 400 miles above the Ground. Therefore the water vapors are sucked by the Space vacuum as above. In 2010 NASA has discovered plenty of ice on the dark surface of the Moon (Space cold). Compare the diameters of the Moon and the Earth. Now you might possibly understand my concern (Fig.4). None in the Governments tells you about the coming danger: I might guess that in 10-

25 years from now there will be a great shortage of the fresh water on Earth, I am not a Medium to predict that, but the signs of that are obvious. No fresh water means no livestock and no crops production. Global starvation. People will kill for the hamburger and the glass of fresh water. The remedy is obvious - to reduce air CO_2 level to somewhat like the air CO_2 level was on or before 1900 or the intensive petroleum discovery, recovery from the Ground and distillation in refineries to get the petroleum products Gasoline (C_7 to C_9) and Diesel fuel (C_{10}-C_{15}) for burning in the Gasoline and Diesel fuel engines to form the air CO_2. The way of doing that is the replacement of the products of the petroleum distillation by the carbon negative fuels.

We offer herein the explanation how we have reached that elevated carbon negative acetone manufacturing using our constructed Acetogen biocatalyst compared to the known the ABE process of acetone manufacturing using the engineered strains of C. acetobutylicum. Acetogens do not have known regulation for the expression of the synthetic genes encoding acetone biosynthesis. The artificial metabolic pathway common for eukaryotic cells making acetone from acetyl-CoA was engineered in the biocatalyst. Engineered strain demonstrated stable continuous syngas fermentation for about 25 days in the five independent runs. Similar biocatalyst performance was achieved on the combined CO_2/H_2 atmosphere. Each such fermentation could be run longer if needed. Continuous fermentations are cost-wise more beneficial compared with fed-batch fermentations. Continuous fermentation increases efficiency of the capital equipment use from ~ 35 to about 75% because owing to shortening time

waste for inter cycle maintenance as the mandatory part of any fermentation process [16].

Fig.3. Fresh water reserves of the planet Earth [29].

Fig. 4. Loss of fresh water from Earth to the Space vacuum due to the elevated air CO_2 concentrations [1].

As stated before, the war started by SHELL which attempted to kill the Author in 2018 has to be continued by the Author who offers now the new generation of the gas stations supposedly distributed Nationwide based on the attracted capital investment. The new gas stations are presented in the Gig. 3. Fig. 3 depicts the overview of the building of the new gas station in the left upper corner. The plan of the organization of the new gas station is showed in the right upper corner of Fig. 3. Below in the left bottom corner you will see the plan of the sea water distillation boat powered by the DC powerful motor obtained from the decomposing submarines with the modern powerful solar panel above said boat to provide enough power for charging of the alakaline batteries purchased from the shipyards as the DC motors above, for running the sea water distillation process and for powering the DC motor as

above to make the boat independently movable. In addition to that, the modern solar panels above said sea water distillation boat have to provide enough power for the disposable bottles manufacturing process to make the process of the distilled water manufacturing complete. At the bottom right part of Fig.3 you might see the Ground facility for storage of the distilled water boats. The transportation boats have the modern solar panels and the alkaline batteries as stated above to power their DC motors as described above for moving the manufactured disposable distilled water to said Ground based storage facilities

Fig. 5. New generation of the gas stations offered in this article as the next Author's step in response to the war started with the Author by SHELL which has committed the attempted murder of the Author in 2018 (the HPD report on

the Author's corporate car totaling by the SHELL hired Mexicans on their Toyota Tundra heavily loaded with steel tubes truck on December 10 2018).

It is paramount to specify herein in this original article that all the transportation needs of the holding the Author has now, and said holding has acquired Microbial Biocatalyst international, Inc. And Inorgcarbdiesel, Inc. Listed herein as the places to work for the Author currently, are performed either on the Carbon Negative fuels or on the solar panels if the transportation requires the movement over the sea areas. For that purpose the boat engines are the DC engines the Author got from the US Shipyards from the decomposed submarines recently. From the same source the Author got the alkaline batteries complementary to the solar panels powering the bioreactors, lower power devices, boats, etc. To make sure the operations do not stop for the night time periods. This is done for the overnight operations at all levels of the holding the Author has now to make sure the operations in the holding are 24/7/365 with no any interruption by the international petroleum corporations which have started the war against the Author in 2018 as stated herein in the Declaration section of this original article. This is the other response the Author has made to SHELL and other international petroleum corporations after the Author's attempted murder committed by SHELL in 2018.

CONCLUSIONS

1. The Author outlined his understanding of the environmental crisis Earth went during XX-XXI centuries with the intensive use of products of petroleum distillation.

2. The Author specified that he is at the top of the people intended to save the normal life on Earth via the replacement of the International Petroleum Corporation s by the businesses producing Carbon Negative fuels.

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Chapter 6. Carbon Negative Mixes Comprising 1,1-Dibutoxybutane

Abstract

Recovery of petroleum and its distillation at the refineries to get Gasoline (C_7-C_9) and Diesel fuel (C_{10}-C_{15}) burned in Gasoline and Diesel cars / trucks, airjets, etc. both lead to the Global Environmental Catastrophe in 10-15 years from now which the humankind will not survive. The fresh water outage is coming at that time, no crops and livestock production follows that. Global Starvation is coming. The Author plans to save the Earth's fresh water by developing Nationwide manufacture of the Carbon Negative replacements of Gasoline and Diesel fuel and add additional distilled water and the Carbon Negative genetically engineered foods to help the humankind pass said .environmental crisis. The Author plans to increase the investor's funds to organize Nationwide the network of the new type of gas stations selling not only Carbon Negative fuels but additionally to that the genetically engineered foods for home cooking and essential household items to save time to the valued customers preventing them to drive additionally. The on-line ordering system to provide additional goods is planned. The environmental problem outlined has the radical solution pending: change of the international petroleum corporations to Carbon Negative corporations.

Key words: Carbon Negative fuels; distilled water from sea water; genetically engineered Carbon Negative foods; new type of the gas stations; the on-line ordering system.

Introduction

Recent changes at the top of the US Executive administration have been combined with the not very wise decisions to cut down the petroleum

imports from the Russian Federation. The free market economy of the US immediately reacted by skyrocketing of the Gasoline and the Diesel fuels prices at the gas stations to the levels affecting all other prices nationwide. For instance the cost of the TX DL skyrocketed from $11 USD in 2011 to $33 USD in 2023 (the coefficient of recalculation all the prices this year vs. year of 2021 and below that year is above 3 - the rule of the market economy per the US Constitution. That coefficient 3 and above is typical for the increase of other prices Nationwide as the major price-wise rule of the free market economy [21]. Subsequently, the proper running of the US economy is possible only with the very wise decisions at the Executive Branch of the US Governmental administration. We offer herein the Carbon Negative replacements of the Gasoline and of the Diesel fuel manufactured from petroleum by the very similar fuels manufactured from the air CO_2 to reduce the noted herein Global environmental crisis on Earth. Nationwide replacement of the technologies based on the use of petroleum as the source of chemicals and the fuels by the manufactured by our Carbon Negative corporations the Carbon Negative technologies and their products is absolutely essential since the Earth has passed the level of the air CO_2 400 ppm, the “Point of No Return” per the NASA discoveries of 2010 [21]. Now the air CO_2 exceeds 450 ppm .and goes above that based of the wide distribution of the intensive transportation based on the use of petroleum-derived Gasoline and Diesel fuels [21].

The Author has written much about the Carbon Negative replacements of Gasoline or Diesel fuel manufactured by international petroleum corporations from petroleum via its distillation at the refineries the number of

which is around 80 in the continental US and each of them operating produces a lot of air CO_2 [5-16,19,21]. Now there is the time to elaborate this topic more precisely.

The combustion energy of fuel butanol is represented by the following numbers for the isomers of fuel n-Butanol shown below as indicated in [6,7]: 1-Butanol: −2.671 kJ/mol, 2-Butanol: −2.661.1 kJ/Mol, Isobutanol: −2.662.6 kJ/Mol, Tert-butyl alcohol: −2.644.8 kJ/Mol. The combustion energy of Gasoline is slightly higher, it is around -3.200kJ/Mol 64 [6]. The combustion energy of DAA or Mesityl oxide is -3.600 kJ/Mol [6]. So, their inclusion into the fuel mixtures increases the total combustion energy to the levels of petroleum Gasoline and above that.

In addition to that the octane number of the most prosperous fuel Isobutanol is 98 [1,2], so its addition to the fuel mixtures above 35% (vol/vl) increases the total octane number of those fuel mixtures. Therefore, adding the fuel Isobutanol [18] to the mixture of other Carbon Negative fuels will substantially increase the overall summary octane number of said mixture. Besides that the viscosity of pure fuel Isobutanol prevents it safe use alone at the outside temperatures below 34^{o}F [21]. That is why we offer this Carbon Negative mixtures comprising 40% of fuel Isobutanol, 20% fuel 1,1-butoxybutane [37], 20% Mesityl oxide [24,34,35] and 20% fuel Diacetyl alcohol (DAA) [15-17, 73.29]. This will eventually compete with the products of the international petroleum corporations originated from petroleum as we discuss below its causing the outlined Global Environmental crisis related to the increase of the air CO_2 content [21,24].

Concerns of the lower total combustion value of the Carbon Negative fuels [38] made us think about increasing the molecular mass of certain mixture components anticipating in result the increased combustion heat value as that was anticipated by us. We have decided to use instead of fuel n-Butanol its product of the Guebert condensation [37]. The use of Carbon Negative fuel n-Butanol has been known already [39].

Indeed the use of 1,1-dibutoxbutane [37] increased the total combustion value of our Carbon Negative mixes we offer to the customers at the new the of the gas stations as we have anticipated that.

Fig. 1. presents the picture of the 1,1,-dibutoxybutane.

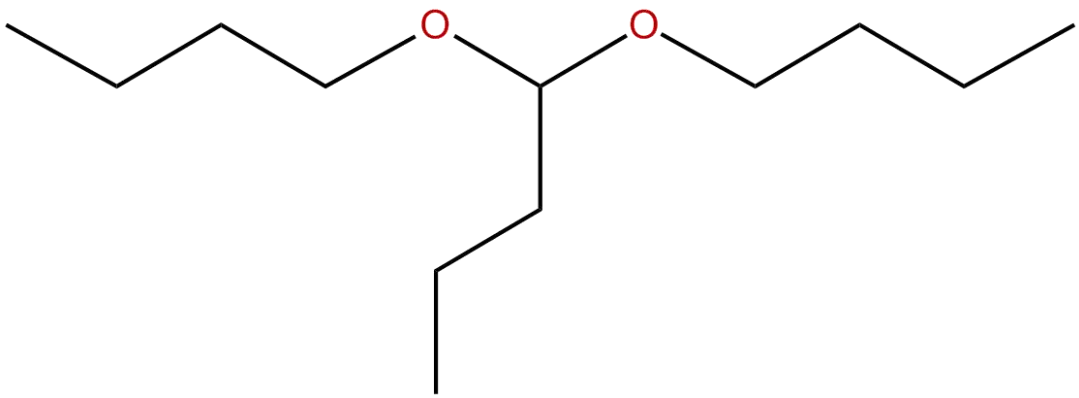

Fig. 1. Chemical formula of the recommended herein Carbon Negative 1,1-dibutaneoxybutane - the replacement of the Carbon Negative fuel n-butanol.

As you could see from this picture the molecular mass of 1,1-dibutoxybutane is 202,388 which is much higher than for the fuel Carbon Negative n-Butanol [39]. Therefore such replacement of fuel n-Butanol [39] with the 1,1-dibutanoxybutane has resolved our noted herein low molecular weight of Carbon Negative fuels concerns.

Therefore, we have decided to sacrifice our both corporate cars for the test driving them on the highway and in the city of Brownsville, TEXAS, to see if any damage could possibly happen to the cars and especially their engines operated with the Carbon Negative mixture of the fuel Isobutanol, fuel Diacetyl Alcohol (DAA), fuel 1,1-dibutanoxybutane and fuel Mesityl oxide []. The manufacturing price of the DAA manufactured from the air CO_2 is approximately $0.35 per gallon as we have estimated that during our calculations at the corporate manufacturing facility we did before [21]. As you already know the manufacturing process of DAA from the fuel Acetone [3] is the condensation of the two acetone molecules over the alkaline catalyst per [4]. It gives fuel Diacetyl alcohol (DAA) at the manufacturing cost of $0.02-0.03 per gallon. The combustion energy of the fuel DAA is approximately -3.573 kJ/Mol [21] as compared to the combustion energy of the Diesel fuel of -808 kJ/Mol [Bio-diesel and Thermodynamics - Chemistry LibreTexts] which substantially exceeds the typical for the diesel fuel combustion engine energy release as the mechanical energy of driving and corresponds to the higher engine power under the given engine mechanical dimensions, probably because of the increase of the combustion mixture explosive pressure. The fuel Mesityl oxide combustion energy elevates that energy of the Diesel fuel [41] and we have decided to test the said mixture of the Carbon Negative fuels comprising as above 40% of fuel Isobutanol, 30% fuel 1,1-butanoxybutane [37], 10% Mesityl oxide [24,34,35] and 20% fuel DAA. That high octane number of that .mixture composing 98 has been tested on the Diesel truck 2022 RAM 3500 to replace the Diesel fuel of the petroleum origin.

However, we are not the explosion experts to discuss this herein [21]. Indicated elevation of the explosive pressure in the case of using Diacetyl alcohol (DAA) and Metsityl oxide happens in the purchased manufactured diesel vehicles. The increased molecular weight of 1,1,-dibutoxybutane has resolved our noted herein concerns of the lowering of the combustion energy of the resulted Carbon Negative mixture. Therefore we are very confident that until the manufacturers do the adjustment of their vehicles it might be very reasonable to keep checking the engine combustion chamber gaskets very often to notice any damage by the qualified dealership mechanics or to notice sudden loss of engine power with the need to get the engine to the qualified dealership mechanic for repairs of damaged combustion chamber gaskets [6,21]. We are confident that the anticipated by the Market Economy prevalence of the Carbon Negative fuels over the fuels originated from petroleum will affect the engineering and quality control process of all the diesel cars / trucks manufacturers to save the time for your valuable customers for said checking of the engines and the engine gaskets.

Biocatalysts used to manufacture the Carbon Negative fuels have different synthetic genes introduced by the means of genome tailoring using the unique Electrotrasformation / Electrofusion Generator developed by the Author when he still was in the Russian Federation [18,19]. The fuel Carbon Negative mixture we have used herein is widely recommended by us to replace the Gasoline manufacture by the international petroleum corporations from petroleum. That will be done itself by the anticipated dominance of the Carbon Negative corporations we have recommended to resolve thew Global Environmental crisis on Earth and describe herein.

Our biocatalyst making fuel Isobutanol has several genetically engineered genes for that purpose [18,20]. The fuel Isobutanol bioisynthesis by this strain is shown in Fig. 3

Fig. 3. Genetically engineered fuel Isobutanol pathway in our biocatalyst [18,20].

Fuel Isobutanol, the perfect Carbon Negative fuel, has a shortcoming bringing it to the zero use: high viscosity, tendency to form gel at temperatures below 0^{o}C (or 34^{o}F) [21-23]. The fuel Isobutanol has viscosity

cP or mPa•s @ 20°C 3.102 [24]. Forming “gel” in the fuel line is absolutely not acceptable and has to be avoided by any means like the use of Carbon Negative mixtures recommended herein. The engines have to run perfectly at any reasonable temperatures. If in the State of TX the low temperatures are typical for only a few months, then in the Northern States the winter has low air temperatures for a much longer time (for instance, winter in New Hampshire).

Therefore, there has to be the tool to eliminate the fuel viscosity to the levels acceptable at the low air temperatures below 0^{o}C. This remedy is found already. Mixing of 40 % (vol/vol) of Carbon Negative fuel Isobutanol with 20 % (vol/vol) of DAA, which we produce Carbon Negative from condensing of the two Carbon Negative acetone molecules over the alkalyne catalyst [25,26], and 30% (vol/vol) of fuel 1,1-butoxybutane [37] and 10% (vol/vol) Mesityl oxide [24,34,35].

Let me emphasize herein again the Carbon Negative fuels as the replacements of Gasoline and Diesel fuel manufactured from petroleum by the international petroleum corporations. Earlier we have published the DAA as the Carbon Negative replacement of the Diesel fuel [42]. DAA might be produced by the condensation of the two Acetone molecules over the alkaline catalyst [4]. The explosion energy of DAA is way above the explosion energy of the Diesel fuel manufactured by the major international petroleum corporations from the petroleum [27,28]. Therefore, we have to pray that our customers will check their engines regularly with the qualified mechanics for the damages which potentially might be caused by the use of DAA in the existing trucks. Therefore the manufacturers of the diesel trucks will have to

make certain changes to the design of their trucks to accommodate much higher explosion energy of added part of DAA. This might be unnecessary however their manufacturers have to acknowledge the massive use of the carbon negative Gasoline replacement and make certain changes improving the mechanical resistance of the gaskets in the engine compartment. Not to mention herein that the international petroleum corporations now spend $1.75 to manufacture 1 gallon of Gasoline or 1 gallon of the Diesel fuel from petroleum by the petroleum distillation ant their refineries producing air CO_2. That eventually substantially affects the prices of the Gasoline and the Diesel fuel manufactured from petroleum [6] s we have notice this summer of 2023 when Mr. President has canceled his overseas contacts and the Gasoline and the Diesel fuel prices skyrocketed to above $5 per gallon each, and this is the cost of existence of the international petroleum corporations on the territory of the US.

Fig. 4 explains how our Acetogen biocatalyst synthesized Carbon Negative fuel Acetone from the air CO_2 [29]. Resulting Carbon Negative fuel Acetone is used for the manufacture of DAA by the condensation of the two Acetone molecules over the alkaline catalyst [4].

Fig. 4. Biosynthesis of fuel Carbon Negative acetone from the air CO_2 [29].

The following chemical reaction allows us make certain calculations per the Acetone yield [29]:

$$12\ CO_2 + 56\ H_2 = 3.6\ \text{Acetone} + 0.06\ \text{Cell Carbon}$$

We have to note that our corporate manufacturing facility is the grid-independent and gets all its electric energy solely from the solar panels covering all the area over our bioreactors and accopmpnying with the set of the alakaline batteries from the US shipyards for the 24/7/365 operations with no interruptions to get connected to the grid to power the process of the industrial importance . We used our original not having any World's analogs gas blend fermentation vessels [1,3,5,7-18] to feed our genetically engineered biocatalysts with the gas mix of the composition 20% (vol/vol) of the air CO_2 and 80% (vol/vol) of the H_2 manufactured by ourselves at the cost of about $0.02 per 500 moles (0.5 kg). The bottom of each vessel was covered with the gas Pall spargers providing the size of gas blend bells of around 0.5 micrometers. The overall fermentation work went extremely well with the high microbial densities of the genetically engineered strains of Clostridium sp. MT896 and of Clostridium sp. MAceT113 [29]. When the acetone reached the concentration of about 8 - 9 g/l in each fermentation block of our fermentation plant, the fermentation was deceased and the acetone was collected from the fermentation fluid. Evaporated acetone was collected and then subjected to the treatment under the alkaline catalyst per the US Patent 1550792A [4] to reach the production of the DAA. At the concentration of the Diacetyl alcohol (DAA) 97% it was collected, dehydrated from the trace amounts of water and used as the diesel engine fuel. So, now we are ready to offer to the customers

the replacement of the diesel fuel, manufactured in the US solely from the air CO_2.

In testing we have used the Carbon Negative fuel mixture composed of 40% (vol/vol) of fuel Isobutanol, 30% fuel 1,1-dibutaneoxybutane, 30% Mesityl oxide [24,34,35] and 20% fuel DAA.

Materials and Methods

Besides the gas mix we used in our horizontal bioreactors we have used our proprietary horizontal fermentation vessels or as we call them bioreactors [Tyurin MV (2023) New Bioreactor for Carbon Negative Gasoline and Diesel Fuel Replacements. Advance in Environmental Waste Management & Recycling. V.6 (1), 402-409].

The most important elements of said proprietary horizontal bioreactor are shown in the following picture (Fig. 5). Important that the gas feeding has to be assembled in the way to provide uninterrupted supply of the 0.5 micrometer gas mixture bubbles to the biocatalyst of it starts decaying with no gas mixture food. We do not anticipate any such interruptions in the technological process and have 39 0.5 micrometer stainless teel diffusion stones in said horizontal bioreactor to provide the uninterrupted feed to our biocatalyst we have made by the genetically engineering methods as described [ ]. Per the immerced in the liquid fermentation medium “perimeter” of said horixontal bioreactor we have the three stainless teel diffusion stones to ensure the uninperrupted gas blend feeding.

Fig. 5. Our proprietary horizontal 60 tosn bioreactor.

The composition of the fermentation medium we use might be different for any kind of the Carbon Negative biofuel (proprietary compositions) but in most cases we use the following liquid medium for the biocatalysts, g/l:

The liquid medium for the growth of Acetogens LM, g/L:

$NaHCO_3$	3.5
KH_2PO_4	2.0
NaCl	0.4
NH_4Cl	0.4
$MgCl_2$ x $6H_2O$	0.33
$CaCl_2$ x 2 H_2O	0.05
Resazurin	0.001
Yeast extract	2.0
Caseine trypton	2.0

Nicotinic acid	0.025
Cyancobalamin	0.025
Para-aminobenzoic acid	0.025
Ca D-pantotenat	0.025
Thiamine x HCL	0.025
Riboflavin	0.025
Lipoic acid	0.015
Folic acid	0.0001
Biotin	0.0001
Pyridoxal - HCL	0.005
Sodium nitrilotriactetate	0.0075
$MnSO_4$ x H_2O	0.0025
$FeSO_4$ x 7 H_2O	0.0005
$Co(NO_3)_2$ x $6H_2O$	0.0005
$ZnCl_2$	0.0005
$NiCl_2$ x6H2O	0.00025
$CuSO_4$ x $5H_2O$	0.0005
$AlK(SO_4)_2$ x12 H_2O	0.0005
H_3BO_3	0.0005
Na_2MoO_4 x 2 H2O	0.0005
Distilled water to the volume of 1 Liter	
	pH 6.5

adjusted by the hydrochloric acid before the autoclaving of said liquid medium at 0.55 atm fro 35 min right in the 60 tons horizontal bioreactor. Imagine the volumes we are operating constantly with to get said biofuels.

As Fig. 5 shows, in our system we used 42 (14 per the length of the horizontal bioreactor, three by the “perimeter” (the 70% of the horizontal bioreactor are filled with the liquid medium), the total number of the impeller used is 42) s causing random distribution of the gaseous blend over the bioreactor volume we have used. Said gas blend was composed of 80% (vol/vol) H_2 and 20% (vol/vol) of CO_2. This is very important that said CO_2 was extracted from the surrounding air. The process of said $C0_2$ extraction is proprietary and we will describe it in our subsequent publication since we do not have enough money for the US patenting process and trust that the publications in the peer-reviewed Journals totally replace the related patents and the published articles have to be always overcome by the patents of competitors if any. The horizontal bioreactor shown in Fig. 5 has been filled by the nutrient medium by 70%. The rest of the bioreactor space was for the used by us gas blend as above. It is important to note that each impellers used were composed of the properly balanced for the rotation three polished stainless 316S steel blades at the speed of 450 rpm. The pressure of the gas blend used in the horizontal bioreactor shown in Fig. 5 was 15 psi. The total number of said diffusion stones was 42 per each bioreactor we have used.

The shape of the bioreactor blades is very similar to that of the air jet aircrafts turbines shown in Fig. 6 below but the exact shape of said stainless teal blades is proprietary as is not shown herein.

Fig. 6. The shape of the impeller blades in our bioreactor is very similar to that of the air jet turbines blades but it is proprietary and it will be discussed in detail in a separate article.

Fuel Isobutanol was manufactured using our genetically engineered biocatalysts as that is discussed in [18]. the fuel DAA was created from the Carbon Negative acetone manufactured before using the technology we have already described [29] by the condensation of the two Carbon Negative acetone molecules over the alkaline catalyst as described [29]. Said Carbon Negative fuel Isobutanol and the fuel DAA were used in the mixture with other Carbon Negative fuels and that is sold to the customers. In case of fuel

Isobutanol its known its relatively high viscosity causing problems in the cars / trucks fuel lines at low air temperatures if fuel Isobutanol was used pure. But the combination of it in the described mixture removes the high viscopsiuty problem. Said problem with elevated viscosity does not exist for the said mixture of the Carbon Negative fuels as we have discussed above: 40% (vol/vol) of fuel Isobutanol, 30% fuel 1,1-dibutaneoxybutane, 30% Mesityl oxide [24,34,35] and 20% fuel DAA.

It is important to note that the impeller blades were placed on a 316S stainless teal shift fixed in our horizontal bioreactor by the Podshipniks [43]. Said Podshipniks are the specifically designed fro handling the rotating shafts and properly manufactured for handling and rotation elements providing long and productive life for shift with the impellers shown in Fig. 5 and used in our horizontal bioreactor. Podshipnik is shown in Fig. 6.

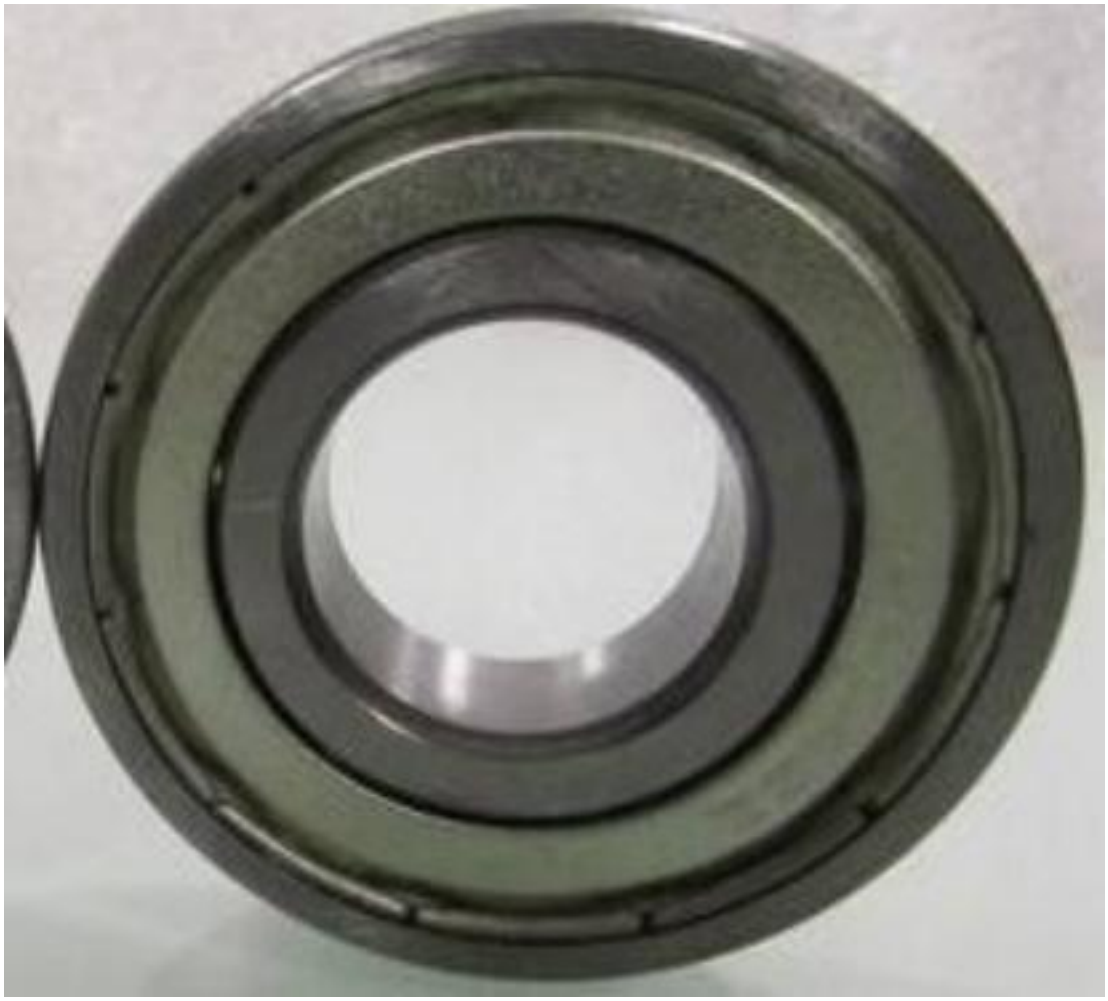

Fig. 6. Podshipnik used in our horizontal bioreactor [30,43].

It is important to note that the Author was assassinated by SHELL after offering SHELL commercialization of his proprietary technology of Gasoline manufacturing from the air CO_2 (the Declaration of Interests Statement section of this original article). As the response the Author has came up with the proposition to displace the existing petroleum corporations operating in the USA by the corporations manufacturing Carbon Negative fuels from the air CO_2 in sincere Author's intent to bring the air CO_2 content to the level of the year 1900 or just before the active petroleum fields discovery and exploration followed by the distillation of petroleum in the refineries itself

producing the air CO_2 [6]. In response to that the Author has made this article using the US Constitutional freedom of speech [17].

It is also important to mention herein that the Carbon negative fuels were sold at the new type of the gas stations shown in Fig 7. below as the intelligent response of the Author to said his attempted murder by SHELL in response to offer of the Author to commercialize his proprietary technology of Gasoline manufacturing from the air CO_2 to resolve the ecological crisis the international petroleum corporations selling the petroleum originated fuels have brought our planet Earth.

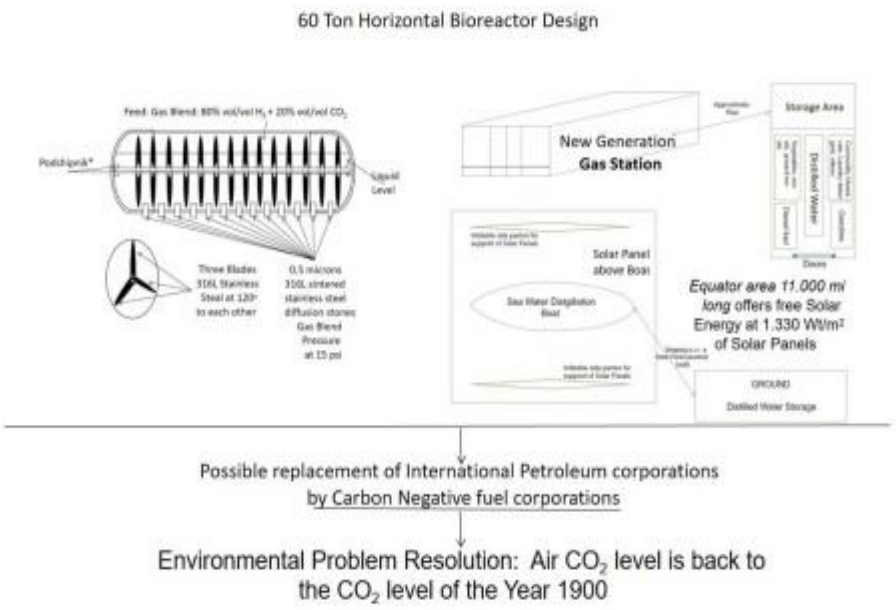

Fig. 7. The intelligent response of the Author to his attempted murder committed by SHELL (the HPD report is available for reference).

We have tested our Carbon Negative fuels of the set of corporate vehicles we have sacrificed for that purpose even without knowing the results of the testing performed but with the great hope that all said vehicles will survive said testing and will be used again but with only the Carbon Negative fuels. For said testing we have sacrificed corporate .2022 Toyota Camry,

Peugeout 3008 and the diesel truck 2022 Chevrolet Silverado 1500 Duramax Diesel. The gas mileage in the town of Brownsville and on the highways was meticulously recorded by the respective chauffeurs Certified mechanics from the Toyota, Peugeot and Chevrolet dealerships were invited to the corporate garage of our corporations to meticulously check 1)stated cars driving and 2) any mechanical damages, especially in the engine compartments, like gaskets on the engines anticipating damage of some of them after at least 10,000 miles of testing. The testing was performed for 20,000 miles for each test vehicle. The records on the gas mileage for all types of 280.tested cars are discussed herein.

We have mentioned herein that we sell our Carbon Negative fuels at the new type of the gas stations (Fig. 7) combining the sales of the Carbon Negative fuels and the sales of the certain goods for which the valued customers had to drive additionally to Walmart and to the grocery stores. And that we offer along with the ordering (includes also the on-line ordering) of the goods the customers could not find at the new type of the gas stations but need and had to drive to the next to the gas stations stores to purchase them. As we have noted before [21] the Environmental crisis as the result of the international petroleum corporations selling the fuels originated from petroleum will result in shortage of the fresh water on Earth due to its enormous evaporation to the Outer Space vacuum [21]. Therefore the sales of the distilled water by the new type of the gas stations is a mandatory process for us - we want to make as easy as possible the time of converting the World's economy from the dominance of the international petroleum corporations to the set of Carbon Negative fuel and genetically engineered

foods corporations. As we have stated herein our intent is to ensure the valued customers will find the new type of the Carbon Negative gas stations a valuable option to save their time for not visiting on their cars the Walmart and the grocery stores. Certain foods for consumers there were prepared using the genetically engineered fungi (to be approved for the Nationwide use). We use the Ordering option for the goods not currently sold at the new type of the gas stations but had to be added fro sales there to save the time for our valuable customers. For that purpose the sales people took the orders and there was also the on-line ordering system.

Results

The Author was really surprised when all his planned herein in this original article experimental parts worked well as described before [7-10, 12-14] with the Carbon Negative replacements of Gasoline and Diesel fuel.

Data on testing of the Carbon Negative fuel using real Gasoline and Diesel fuels vehicles. Results of checking by certified mechanis from respective car / truck dealerships on no any visible defects or vehicles misbehavior while driving

The certified mechanics from the respective car / truck dealerships meticulously tested the respective corporate cars at the corporate manufacturing site and drove said cars on the roads nearby the manufacturing site meticulously to reveal any damages caused by the replacement of the Gasoline or the Diesel fuel by the suggested mixture of Carbon Negative fuels 40% (vol/vol) of fuel Isobutanol, 30% fuel 1,1-dibutaneoxybutane, 30% Mesityl oxide [24,34,35] and 20% fuel DAA. Said mixture was also used to power the Diesel truck 2022 RAM 3500. The cars

were placed on the treadmill with the device to check the engine emissions. No unusual exhaust gas emissions were ever tested and discovered in the exhaust gas of all tested vehicles.

No unusual emissions in the cars exhausts

No unusual engine emissions were noted by said mechanics for all tested corporate cars. Then the mechanics made the test drives of the each said vehicle. No any mechanical or any other damages to the engines of the all said cars were ever revealed upon said thorough testing. Test drives of each said vehicle by the certified mechanics did not reveal any abnormal driving behavior in any of said cars. The mechanics still did not make any further recommendations on the following use of the Gasoline and the Diesel fuel replacement leaving for the Author the possibility of reporting this very good news to the general public. The gas mileages of the cars used to test the mixture of the fuel mixture of Carbon Negative fuels 40% (vol/vol) of fuel Isobutanol, 30% fuel 1,1-dibutaneoxybutane, 10% Mesityl oxide [24,34,35] and 20% fuel DAA as the replacement of Gasoline were 37 mpg on the highway and 31 mpg in the city of Brownsville. You can easily calculate the average gas mileage from said numbers. But the overall picture looks to us very promising since the gas mileage even slightly exceeded the Gasoline from petroleum use mileage in Toyota Camry and Porshe Cayenne Turbo. Due to the limited number of the tested cars we cannot make any predictions for the other car makes and the cars made before the year of 2022. This will become the risk of the other car owners, who will decide to replace their Gasoline with the produced from the air CO_2 mixture fuel mixture of Carbon Negative fuels 40% (vol/vol) of fuel Isobutanol, 30% fuel 1,1-

dibutaneoxybutane, 10% Mesityl oxide [24,34,35] and 20% fuel DAA. If you remember our corporate goal is to replace all the petroleum use by the use of the air CO_2, initially to resolve the issue of the transportation problems, substantially increasing the air CO_2 content via the air CO_2 accumulation and eventually to decrease the air CO_2 content causing the fresh water loss to the outer Space vacuum as stated before. The similar picture was seen if we used said mixture fuel mixture of Carbon Negative fuels 40% (vol/vol) of fuel Isobutanol, 30% fuel 1,1-dibutaneoxybutane, 10% Mesityl oxide [24,34,35] and 20% fuel DAA to fuel the Diesel truck 2022 RAM 3500: highway mileage 37 mpg, town mileage 35 mpg for the long testing time of 20,000.

Fuel efficiency of the new carbon negative replacement of the Gasoline and Diesel fuel

For the use of said mixture of Carbon Negative fuels 40% (vol/vol) of fuel Isobutanol, 30% fuel 1,1-dibutaneoxybutane, 30% Mesityl oxide [24,34,35] and 20% fuel DAA as the Diesel fuel replacement for over the 20,000 miles runs, the 5,000 miles old 2022 Shevrolet Silverado1500 truck was used for test runs on our carbon negative Diesel fuel for 20,000 miles.. The Diesel fuel mileage was achieved on the highway at the average diesel fuel mileage ~38 mpg, and at ~32 mpg driving in the city. The calculated the combined driving efficiency was about ~36 mpg. The Author does not take any risk in forecasting the Diesel fuel mileage behavior of the other diesel cars/trucks makes and per the mileage forecasting for the Diesel cars/trucks makes older than the year of 2022.

Discussion

NASA has stated in 2010 after measuring the air CO_2 content above 400 ppm that that was the "*Point of No Return"* to healthy environment on the Earth. Now the air CO_2 level exceeds 450 ppm. What that means and how do we pan to reduce the air CO_2 content to the level we have in our dreams - the air CO2 level of the year 1900 or just before the active discovery of the oil wells and fields and the massive petroleum production and use fore distillation to manufacture Gasoline and Diesel fuel by the international petroleum corporations [21].

The air CO_2 is the heaviest gas of the air gas blend having density of 1.22 g/m$^{3.}$ The air CO_2 density exceeds 1.97 g/m^3 [21]. Therefore by the gravity force the air CO_2 is covering the Ground. The Ground is the natural refuge for all kinds of fresh water: fresh water from rains, snow/ice melting, etc. The Ground is the place where from the creeks, rivers start from to go to the sea, lakes and ponds. With the air CO_2 excessively covering the Ground it produces much more fresh water vapors as that was in the year of 1900. In the Southern States of the US the temperature of the Ground reaches 100^{o}C and up. The fresh water trapped in the Ground might even boil increasing the evaporation of the fresh water vapors to the air. The air is attached to the Ground by the gravity force. The average thickness of the air layer above the Ground is about 400 miles. The other end of said air layer is the outer Space vacuum. In 2010 NASA has found a lot of ice on the dark surface of the Moon. NASA has concluded that ice was captured by the dark surface of the Moon (-293^{o}C) and the fresh water vapors came form Earth. The Moon worked as the "cold trap" for said vapors. Compare diameters of Earth and the Moon, thinking that the Moon is located in 200,000 miles distance from Earth [21].

What that means? Earth is wasting its fresh water to the Outer Space. How to stop it? This might be stopped by the stopping the air CO_2 production. Can we stop using the produced by the international petroleum corporations originated from petroleum fuels? Apparently the answer is NO. For that purpose we have developed our Carbon Negative fuel and food corporations and manufacture the Carbon Negative genetically engineered foods. Therefore we are offering the Carbon Negative fuels and genetically engineered Carbon Negative foods at our new type of gas stations instead of the widely used Gasoline and Diesel fuel manufactured by the international petroleum corporations from petroleum on the over 80 in the continental US refineries to distill said petroleum to the gasoline fractions (C_7-C_9) and Diesel fuel (C_{10}-C_{15}) and sold to customers Nationwide and World-wide.

The described for the Acetogen biocatalysts the new type of the horizontal bioreactor design has the three gas blend diffusion stones per the perimeter of the bioreactor to ensure the even distribution via the total number of said diffusion stones was per each bioreactor of the feeding Acetogen biocatalysts with the gas blend components to feed the biocatalysts. Fig. 5 shows only one of the three said diffusion stones. Our horizontal bioreactor for the manufacture of the Carbon Negative fuels has three said diffusion stones per the perimeter of the immersed to the medium part thirty inches apart from each other with the total number of said stones 42 [30].

The Author suggests his own Carbon Negative fuels sold at the new type of gas stations shown in Fig. 8.

Fig. 8. New type of the Carbon Negative fuels gas station offered herein.

The new gas stations (Fig. 8) selling the Carbon Negative mixture as we noted above: 40% of fuel Isobutanol, 30% fuel 1,1-dubutanoxybatane, 10% Mesityl oxide [24,34,35] and 20% fuel DAA [15-17, 29] along with the genetically engineered foods and normal foods for the home cooking of the customers showed pretty much promising tendencies of the improved sales of both the Carbon Negative fuels and the foods for the home cooking and consumption. Additionally said gas stations sell to the customers the chemicals widely used by the household - and this all just to save the valuable time for the valuable customers. Apparently customers really appreciate the opportunity to save their time while visiting said new version of the gas stations selling also foods for the households. Saving of the customers time was our primary priority and the new route to improve sales of the Carbon

Negative fuels. Basically we have reached our goal; the new kind of the gas stations probably will replace the existing gas station selling only snacks and Gasoline and Diesel fuel manufactured from petroleum nad killing Earth by the waste of fresh water to the Outer Space.

Actually, said above the new type of the gas stations along with the offered there Carbon Negative fuels is the delicate and intelligent response of the Author to his attempted murder committed by SHELL in response to the Author's offer to SHELL go start the manufacture of the Carbon Negative fuels.

We are very much concerned about the amount of the fresh water reserves on Earth. Fig. 9 shows the Governmental data on that [33]. Fig. 10 elaborates these data.

Fig. 9. Fresh water reserves of Earth [33].

Fig. 10. Loss of fresh water from Earth to the Space vacuum due to the elevated air CO_2 concentrations [6,21].

The Author came to Houston in January of 1998 (the time for the weather change is only 25 years) . He was pleased by the Houston warm weather and always blue bottomless sky. Just in passed from that time years the Houston weather has changed. There is rain almost every day now. Rain is good as more fresh water comes to the Ground. However we need to realize that the Earth atmosphere which is only 400 miles thick above the Ground and ends up with the Outer Space vacuum sucking the fresh water vapors from Earth's atmosphere if the air CO_2 exceeds certain levels. Said atmosphere structure is not even. Important is the closeness to Houston of the Mexican Gulf. Air CO_2 spreads over the ground and the sea water. Sea does not boil but what the processes are at the thing layer of the air CO_2 and the neighboring sea water the Author is not sure. It might be evaporating so

much that now the Houston wheather has dramatically changed. The days are cloudy, and the clouds come from the evaporated by the Mexican Gulf sea water. There is the shortage of fresh water coming to Earth. Shortage of the fresh water means shortage of livestock and crops production - there will be nothing to eat in 10-25 years from now. This is the projection offered by the Author in this article. Rains are at the atmosphere's bottom. Above that there are different events and above that is the Space vacuum. Therefore, the rainy now weather in Houston reflects the substantially increased amount of the fresh water vapors in the air gas blend blend. Specifically, with the changes in Houston weather you can easily see that over accumulated air CO_2 boils sea water in the Mexican Gulf. Most part of Mexican Gulf is in the Equator area where the Sun gives for free to us up to 1,330 Wt/m^2 of the solar panels. The same happens with the air CO_2 which selectively absorbs the solar light infra red energy and converts it to heat. That heat boils sea water on the surface of Mexican Gulf changing in Houston weather now. South winds bring evaporated from Mexican Gulf fresh water condensed in the clouds often offering rain these days. Only 25 years from the Author's arrival to Houston and such a dramatic weather change there. So, you can easily see that the changes to the fresh water evaporation to the Space vacuum are coming as we now project - in the next 10-25 years from now. Fresh water shortage will mean the shortage of the crops and the livestock production. The ecological crisis is coming and it will be the worst in the history of the humankind. The Author plans to prevent that from happening. By the establishing the domination of the Carbon Negative corporations both fuel and genetically engineered foods for feeding the anticipated starving customers.

The planned price for the Gasoline and Diesel fuel replacements is planned at the level of $2.60-$2.70 per gallon regardless if the fuel will be used for the Gasoline or Diesel fuel powered cars / trucks. We have not had a chance to investigate the suitability of this new Carbon Negative mixture use for powering of the air jet turbines yet [36]. We are confident it will work even there but we have to check it thoroughly and meticulously there like we did with the Gasoline or Diesel fuel powered cars as noted in this article.

Therefore we are gong to save the Earth's fresh water escaping to the outer Space. What fresh water shortage mean? No crops and no livestock production. Global starvation is coming to Earth. And we are going to revert it by noted herein in this article means. The Author claims he will save this world and he will save the Earth's fresh water.

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Chapter 7. New DNA Sequences Encoding Biosynthesis of Cell Polysaccharides in Bifidobacterium breve, B. longum and B. bifidum.

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Abstract

The useful properties of Bifidobacteria do not need to be discussed herein. We have discovered the unique therapeutic properties of surface polysaccharides of certain strains of bifidobacteria helping recovery of multiple patients during the described Cholera outbreak in the Russian Federation. Herein we have presented the nucleotide sequences encoding the biosynthesis of said polysaccharides in Bifidobacterium bifidum, B. breve and B. longum. Selective medium for isolation of bifidobacteria from feces is shown. **Importance**: Therapeutic effect of extracellular bifidobacterial polisaccharides is discussed with the respective images of the recovered gastro-intestinal epithelium.

Key words: bifidobacteria, bifidobacteria-probiotics; surface polysaccharides of B. bifidum, B. breve and B. longum; therapeutic action of said

polysaccharides; gastro-intestinal epithelium recovery with said polysaccharides.

Intorduction

The Author has noticed that often his excrements have glossy structure and if dried on solid lives of plants become completely transparent. The Author suggested that his feces were rich in the content of the polysaccharides and attempted the isolation of the most numerous strains of his own intestinal bacteria. Said numerous strains turned out to be Bifidobacterium breve, b. bifidum and B. longum. Essentially, the number of bifidobacterial strains in the feces of the Author was significant, but these three species dominated quantitively. The Author has made a suggestion that said his own bifidobacterial strains are in charge for said polysaccharides production [51].

The Author has examined his feces for the presence of the specific polysaccharides and has identified at least three of said polysaccharides the Author has purified said polysaccharides, applied the high-performance liquid chromatography (HPLC), multi-angle laser light scattering, the use of viscometer, and of the refractive index detector (HPSEC-MALLS-Vis-RID), and then performed the Fourier transformation of the infrared light (FT-IR). The Author has used said methodologies to discriminate his own fecal polysaccharides from nine different species of brown algae (BA1-9) as that has been done before [14,29,31,51]. The Author's results showed that his fecal polysaccrarides were indeed the β-D-glucans possessing the β-1,3-1,4-glucan linkages at least. The molecular weight, radius of gyration, and intrinsic viscosity of said fecal polysaccharides were ranging from 1.718×10^5 Da to

6.630 × 10^5 Da, had the actual size of the molecules of 30.2 nm to 51.5 nm, and were present in the Author's feces at the amounts of 360.99 mL/g to 865.52 mL/g [14,29,51]. Moreover, α values of said fecal polysaccharides were in the range of 0.635 to 0.971, which indicated a rigid rod their chain conformation, at least [29,31,51].

Said fecal polysaccharides possessed their own antioxidant activities of BSPs exhibited substantial radical scavenging activities against DPPH (1,1-diphenyl-2-picrylhydrazyl) and ABTS (2, 2'-azino-bis-3-ethylbenzothiazoline-6-sulfonic acid) radicals, which indicated that the use of BSPs might be the potential approach for antioxidant supplements [51].

Earlier, the Author had a trip to his native town Saratov when said town had the epidemiological outbreak of Cholera, the intestinal infection of the National importance for the Russian Federation. Luckily, the Author was allowed to use the Mixture, the artificial preparation containing said polysaccharides in the amounts of 0.5-0.97 g/L of the liquid the infected with Cholera Russians had to consume during their treatment and the recovery period [9]. The specific feature of Cholera infection in people is the complete destruction of the gastro-intestinal epithelium and that significantly increased the recovery periods of time [9]. The specific feature the Author tried to examine on said recovering from Cholera Russian citizens was the stimulation of the gastro-intestinal epithelium recovery with his preparation called "Mixture" to cure said people recovering from this dangerous infection [9]. That has cause the specific interest of the Author to said his intestinal polysaccharides to be commercially included into the Mixtures for the treatment of serious gastro-intestinal disorders in various people after the proper testing and the

positive decision of the US controlling entities to use said polysaccrarides [9]. Basically, said polysaccharides are the product of the Author's own intestinal bifidobactera, the microorganisms widely used as the probiotics [12, 13].

The Author is the source of said bifidobacterial strains producing said polysaccharides *in vivo* and certain time during the *in vitro* cultivation (not to exceed 200 h). The linkage of said polysaccharides to the chromosomal DNA of said strains of intestinal bifidobacteria was estimated during the genome tailoring experiments the Author has conducted to associate the presence of said polysaccharides to the chromosomal DNA of said strains of bifidobacteria. The experiments were conducted as described before [1-7]. The Author has eliminated the DNA sequences possibly associated with the encoding of said polysaccharides and resulting was the lack of said polysaccraides production by said strains of B. bifidum, B. breve and B. longum. Returning back the said DNA sequences restored the polysaccharides production which is not included into this original article due to the limitations of the published volume.

Materials and Methods

The isolation of the genomic DNA from said strains of bifidobacterial B. bifidum, B. breve and B. longum was done as described before with no modifications [13,51].

Sequencing of the isolated genomic DNA from said strains of bifidobacterial was conducted by the methods and procedures used for ther customer DNA sequencing by the business Illumina in San-Diego, CA [14,51].

We offer herein the actual DNA sequences encoding said polysaccharides.

Sequence 1. Bifidobacterium bifidum polysaccharide DNA sequence. The NCBI deposition number is 2665132.

1 ccaaattacg ggcggttaat agatgatcaa tgtccaagaa gcgctggcaa aaccttggtt

61 acctatcaga tattttctat atccagattc aactggtcca aattcgcaag gagaatagct

121 ggctggttcg gaattgcttg agctgacttt atacggctga tttggtcttt gcttatatac

181 gtccggatgg cgaccgtcgc ttcctagttg tggctaactt gtccaatgaa gagcaagact

241 tgacagtaga aggaaaagtc tgattgaaaa aaatctgtct cactgcggct aaagaagtac

301 ttgaaggaca ggtcttggct ccatgggatg ctttctgtgt ggaattacta tttatatttt

361 atttaaaatt ttgcagaaaa gaaatcatgt aaaaacaagg gaggactgta taaaagacag

421 aaatcctttg ttttttataa ccaaggttta taaactttca ttctcgaaat tcaattaact

481 ccactattaa ggagaaagaa gatgaacata aagaagcgtg tccttagtgc ttacaaattc

541 aggtctgact tttgcatctg ctttgcttta gctgcttgcg gccaatcagg ttcagataca

601 aaaacttact catcaacctt tagtggaaat ccaactacat ttaactatct attagactat

661 tacgctgata atacagtcaa ttgaaataag agcaggataa gggggcctcg taaaaggtat

721 tgcggcttgg taataccttt tacgaggctt tttgatatga gcccatgttt tctcggtagg

781 ggtgagtagg attgtactca gaggaagagg taaaagttta tgcccaaact cttcgcataa

841 ttccccattc tatggaatct tgcattatcc ataataataa aagttctagc ccgatggtgt

901 ggttaatgtt ggtaagaaaa acttctgaaa ccttgcttca aaaaagtcgc tcgtcatcgt

961 ttcttcgtgg gtcattggag cgattaactc accatttgtt agacctgcaa ccaaagaaat

1021 cctctgtttt cttcttccag atactttgcc tcttcttaac tgacctttta atgagcgacc

1081 atattctcga taatttttaag tatcgaatcc tgtttcatca atctaaacag gtgataggtg

1141 ctttggggcta ttaaaattct taagaaataa ggctactttt tctgggtctt gttcataatt

1201 agattgccccc tagaatagta cacttctgct tctaaaacat tgttagaaat cgatttgact

1261 atttgtcatg gtcctgatcg ttcttatttc attttactat atttttgttt cgcgggaagt

1321 ctactaagat acttaaagat gcagatagta ggggaaatgt agacattacc gtaaaaaagt

1381 gatataattg tacgatgttc aaggtatagg tgttaatcat gagtagacgt tttagggaat

1441 cacgttcaca gaaagtgaag cgaagtgtta atatcgtttt gctgactatt tatttttgt

1501 tagtttgttt tttattgttc ttggtcttta agtacaatat ccttgctttt agatatctta

1561 acctagtggt aactgcgtta gtcctactag ttgccttggt agggctactc ttgattatct

1621 ataagggagc tgaaaagttt actatttttc tgttggtgtt ctctatcctt gtcagctctg

1681 tgcagtacag cagtttgttg gactgaccaa tcgtttaaat gcgacttcta tgtcgctctt

1741 atattcaatc attactcaga agtgtcgctg ttttagcaga tagtgatatc gaaaatgtta

1801 cgcaactgac gagtgtgaca gcaccgactg ggactgataa tgaaaatatt caaaaactac

1861 tagctgatat taagtcaagt cagaataccg atttgacggt cgaccagagt tcgtcttact

1921 tggcagctta caagagtttg attgcattgg agactaaggc cattgtctta aatagtgtct

1981 ttgccaatat catcgagtca gagtatccag actacgcatc gaagataaaa aagatttata

2041 ccaagggatt cactaattaa gtagaagctc ctaagacgtc taagaatcag tctttcaata

2101 tctatgttag tggaattgac acctatggtc ctattagttc ggtgtcgcga tcagatgtca

2161 atatcctgat gactgtcaat cgagatacca agaaaatcct cttgattaca acgccacgtg

2221 atgcctatgt accaatagca gatggtggaa ataatcaaaa agataaatta acccatgcgg

2281 gcatttatgg tccattcaca ccttagaaaa tctctatgga gtggatatca agttgattcg

2341 attactatgt gcgattgaac ttgggagggg ttcacttctt tcttgaaaat gattgactta

2401 tagatgttca taatgatcaa gagttttcag ctctacatgg gaagttccat ttcccagtag

2461 ggaatgtcct tctagactct gagcaggctc taggttttgt acgtgaacgc tactcactag

2521 ccgatggaga ccgtgaccgt ggtcgcaacc aacgggaggt gattgtggct atccttcaaa

2581 aattttcgtc aaccgaagca ctgaaaaatt atagtactat cattgatagc ttgcaagatt

2641 ctatccttac aaatatgcca cttgagacta tgataaattt ggtcaatact cagttagaaa

2701 gtggagggaa ttatagggta aattctcaag atttaaaagg tacaggtcgg acggatcttc

2761 cttcttatgc aatgccagac agtaacctct atgtgatgga aatagatgat agtagtttag

2821 ctgtagttaa caggatgtga tggagggtag agcagctata atgaaatgat agacatccat

2881 tcgcatatcg tttttgatgt agatgacggt cccaagtcaa gagaggggag caaggctctc

2941 ttgatagttt cctacaggca gggggtgcga accattgtct ctacctctca ccgtcgcaag

3001 ggcatgtttg aggctccgga agagaagata gcagattact ttcttcaggt tcgggaaatt

3061 gcaaaagaag tagcagatga tttagtcatt gcttatggcg cagagatata ctatactctg

3121 gatgctctag ggaagctaga aaaaaaagaa attcctaccc ttaatgatag tcgttatgcc

3181 ttgattgagt ttagcatgca tacttcctat cgtcagattc atacgggatt gagcaatatt

3241 gaatcacgcc agtaattgct catattgaac gttatgatgc tttagagaat ttgatgttgg

3301 aacgaaaaac atgttcgtga actgattgat atggggtgct atactcagat ttatagttat

3361 catgtttcaa aacctttgtt ctttggtgaa aaatataaat tcatgaaaaa gagagctcgg

3421 tattttgggg aacgtgattt agttcatgta gttgcaagtg acatgcacaa tttagacagt

3481 atatgcaaca ggcatatgat atcattgcta agaaatattg gagccaaaaa agacctccat

3541 agcgttagaa cttttgtaga taatcccaga ttaattataa tggatcaatt aatttaggag

3601 accctatgaa ggaacaaaac actttggaaa tcgatgtatt gcaactatcc agagctttat

3661 ggaccagaaa gttagtcatt ttattagtgg caattataac ttcttcagtt gcttttgcct

3721 acagtacttt tgttatcaaa cctgagttta ctagtacgac tcggatttat gtagttaacc

3781 gtgatcaggg agagttgtct ggtttaacca atcaagactt gcaggcagga tcatacttgg

3841 ttaaagacta tcgtgaaatt atcctatcgc agtatgtttt ggaggaagtt gtttctgatt

3901 tgggactaga tttgacgcca aaaggtttgg ctaataaaat taaagtaaca gtaccagttg

3961 atacccgttt tgtctctgtt tcagttaatg atcgagttcc tgaagaggca agccgtatcg

4021 ctaactcttt gagagaagta gctgctcaaa aaattatcag tattactcgt gtttctgatg

4081 tgacaacact ggaggtggca agaccggcga tatcaccgtc ttcgccaaat attaaacgca

4141 atacactggt tggttttttg gcaggggtga gtggaactag tgttatagtt tttcttcttg

4201 aatttttgaa cactcgtgtg aaacgtccgg aagatatcga aaatacactg cagatgacac

4261 ttttgggagt tgtaccttac ttgagtaagt tgaaatagga gagaggaatg ccgacattag

4321 aaaaaaactg gagttcatta aaatagcaca agaaggcaga agaatattac aatgccttgt

4381 gtacttatat acagttgagc ggagataaac taaaagtaat ttccgttact tctgttaacc

4441 ctggggaagg aaaaacaact acttccgtaa atatagcaag gtcgtttgcg cgtgcaggct

4501 ataaaactct tttgatcgat ggcgatactc gaaattcagt tatatcagga gtttttaaat

4561 cgcgtgaagg aattacaggg ctaacagaat ttttatctgg gacagctgat ttatcttacg

4621 gtttatgtga tacaaatatt gttaatttat ttgtagttca atcgggacct gtatcaccaa

4681 accctacagc cttgttacaa agtaggaatt ttaatgatat gattgaaaca ttgcgtaaat

4741 attttgatta tatcattgtt gatacaccac ctgttggaat tgttattgat gcggtaatta

4801 tcactcaaaa gtgtgatgcg tccatcttgg taacagcaac aggtgaggcg aataaacgtg

4861 atgtccaaaa agcgaaacaa caattagaac aaacagggaa actgttccta ggagttgttt

4921 tgggtacatt ggatatctcg gttgataagt atggagttta cgcttcctat ggaaattatg

4981 gtaattaata acttaggaaa gattttatgg ataaaaaagg attggaaatt tttctggcag

5041 tattacagag tattattgtc attttattgg tttattttct tagctttgtt agagagacag

5101 aacttgaacg ttcttcgatg gttatactat accttctcca ctttttgta ttctatttta

5161 gttcctatgg taacaaattt tttggaagag ggtacctagt tgagtttaat agtactataa

5221 gatatatttt tttctttgca atagctataa gtgtattaaa ctttttata gcggaacggt

5281 ttagtatctc tagaagagga atggtatact tcttaacttt agaaggaata tccttatact

5341 tgttaaattt cttagtaaag aaatattgga agcatgtgtt ttttaatcca ggggatagca

5401 agattatttt actgttaaca gtaacggaaa atatagaaaa agttcttgat aaattgctag

5461 aatctgatga actttcatgg aaactggtag cagtaagtgt tttggataaa tctgattttc

5521 aacatgataa aatacctgta attgaaaagg aggaaattat tgaatttgca acgcatgaag

5581 ttgtggatga ggtgtttgtc gatcttccag gagagagcta tgatattgga gaaattatct

5641 ctaagtttga gacaatgttg atagatgtaa ctgtaaatct taatgcattt aataagaatt

5701 tgggtcgtaa tattcaaatt catgagatag taggattgaa tgtagtcact ttctctacaa

5761 aactagtcat atttttataa gtgatttcaa agagaattct cgatatttgt ggtgccacta

5821 tctttttgct atagctagtc tagttttagt tccattgatt cgtaaagatg ttggccttat

5881 gcggaccagc tatttttgct caaactcgta tagggaccaa tggtcgacat tttacctttt

5941 ataccttccg ttcgatgcgg atcgatgctg aagttatcaa agaacagttg atggatcaaa

6001 atacgatgcg aggtggtatg tttaagatgg acaatgatcc tcgtgttaca aaaattggtc

6061 taaaaccagt ttagatgagt taccccagtt ttggaatgtc tttataggag gctttattcg

6121 atatgagttt ggtgggaaca cgtccaccta cagtagacga gtatgatcag tatactccag

6181 aacagttacg tcgactcagc tttaaacctg gtattacagg tttatggcag gttagcggcc

6241 gtagtaaaat aaccgattcc gacgatgttg taaaattaga tgtggcttat attgataatt

6301 ggacaatctg gaaagatatt gaggttttgc ttaaaactgt taaagttgta tttatgagga

6361 atggagcgaa gtaagggatg aaagtatgtc tagttggatc tagtggaggt catttaactc

6421 atttgtattt attattacct ttctggaaag atagagaaag attttgggtg acttttgata

6481 aagaagatgc aagaagtatt ttagaaaatg aaatatttta tccatgttat tatcctacta

6541 atcgtaatct atttaatctt attaaaaata cgattcttgc tttcaaaatt ttgagaaagg

6601 tattatcgtc tcatcagggg cagctgtagc agttcctttc ttttatctag aacgccctga

6661 ggagggtatt tggtgctaag acagtctata tagaagtatt tgatagaatt gatgctccga

6721 caatgactgg gaaacttgtt tatccagtaa ctgacaggtt tattgtacaa tgggaagaaa

6781 tgacccaagt atatccgaaa gcaatcaatc tcggagggat tttctaatga tttttgtgac

6841 agtaggttct catgaacaac agtttaatcg acttatttta gaggttgata gattaaaagg

6901 tgagggattt attcaggatg atgtttttat tcccacagga tactctaatt atgttccaaa

6961 attttgtaaa tgggaggaat taatatctta tgaaaaaatg aatcaattga ttaaggaatc

7021 agatattttc attacccatg gcggtccagc tacgtttatg gcagttattg ctagaggtaa

7081ttttttccaata attgttccgc ggctaaaaaa atttggtgag catgtaaatg atcaccagat

7141 gcaatttgta aaaataacga aagaaatata caatttaata gttatagatg atatttcaga

7201 cttacattta attcttcata attttaagga caaacatttt gaaacttatt tgaataacga

7261 gagatttttt gtacgtttca atgtggaaat cagtaacctt tttaaaggaa ataaaataaa

7321 tgaggattag aatagaacct cagtattttc tttataaata cctttggttt attatcctac

7381 ttccattaca gtttatgcaa ttaatattat tctttttaat tgctttaact cttttaccaa

7441 agaaaaacaa cctatataaa gtttttaaaa tagatacacc gtctttttgt atggtgctat

7501 atattctata tctataatat ttaattctct gattgatgga ttggctgttc ggactattat

7561 aagtgttgtt ttcagatttg agtatagcat ttaattggct aatagcagta ttttttttata

7621 attattattt gaaaatgcca atcaatattg acaggatatt gagatatatg tattataatt

7681 ttactatctt agttgttttt gtcggtttat tctatataca aagaggcttt aatgtaattt

7741 tgtttgggag aagtttgtta gactgggacg gatttacatt agctactagt tatggtgtaa

7801 gatatacagg ttttttagaa tacgcaactt taaatggtca gttaattctt tttttattac

7861 cgttaattag attgtttaga ttttgatttt ttacacaaac tatcattttt gcttttcttc

7921 tagaggtttt ggtactaagc aaatctagaa tagcgattgt tgcaatgctt atatatatag

7981 catttgcagt attaattcaa acaataaatg gcttattgga attttctgtc agtcaatgag

8041 caattattcc ttttttcaaa ttttatgtta ttttacaatt ttgaaaaaat taaacagatt

8101 tgtttagttc tagatcgggt agcaatgcga cacgctttag agtgtatgag gaatccctaa

8161 aagctattaa tggaatggaa atgttacttg gcgcgggtgt cagaattccc tctacagtag

8221 atatattatt ggggtcacat tctatgtata tttgttttat ttataggaca ggagttttag

8281 gaagtataat aataacagta atgttttatt atctgttttc tggattttta aaatgtgatt

8341 catctgagag actaagccgt attggctata ttctagcttt gtcagtattt tggctttttg

8401 aagagttaga tccacattat tggtgtttgg ttttattttt ttcaacaata agtattttca

8461 taggcaatag aaaagaggaa atagttggat gatagaagta tcaatcataa ttccaatata

8521 caatgctgaa accactatta aaaattgtgt tgatagtgcc ttaaagcaaa atttagaatc

8581 tcttgccgtg attttggtga atgatgggtc taacgattct acatcaaaaa ttcttgaaca

8641 gtatggtgat aatcggcaag tgatgatttt ccatcaagtg aacatgggag tatctgctgc

8701 cagttacgta ggattatcgt atgcaagcgg agagtatgtg ttctttttag attcagatga

8761 tatattagat gaaggtatgc tatctaaaat gtatcagttt gcaaggagta ataaaattga

8821 tcttttatct tgttggcata gggagcctag tacaacacaa tacggtggta atgataatag

8881 ttcagcttca tttattgcac gaacaaaaga ggttatagga aatcattttg tggatatttt

8941 tccgggaggt gcttgtgcta agttatttct tcgtagaaga attgaggaaa acaatattgc

9001 tttttcgtct gagatgtcac taggagaaga tatgtcattc gtttgccaat acttgatggt

9061 ctcggggagt attgcagtaa ttgatggact gtattatact attcagaatg ttaatccaca

9121 gtcattatct aagcgatatg taagtaatat cgaaccctcc ctattaatgc agaatcagtt

9181 atgggatcgg ttattagaag tttatccttt aattgaggag aactactaca agcaacatat

9241 ggatttttt ttttatcttg ctagtttata tgtgaataat ttatttaaat ttgattctcc

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The file desposited to the NCBI is attached to this publication.

Sequence 2. Bifidobacterium breve MT 0033356 polysaccharide DNA sequence. The NCBI deposition number is ID 697837.

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The file desposited to the NCBI is attached to this publication.

Sequence 3. Bifidobacterium longum MTG 404487 surface polysaccharide. The NCBI deposition number is 404487.

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17068 ctgatgcgat

The sequence ID per the deposited to the NCBI file is 404487. The FASTA file with this sequence is attached to this file with the original publication.

Results.

As we have promised in [10], these are the exact DNA sequences determined to be produced *in vivo* by the Author's intestinal bifidobacterial. Said polysaccarides have been tested to increase substantially the recovery times in the Russian citizens recently [10]. Now this is the task of our other

Senior executive team member to run the investigation or to join the investigation of said therapeutic preparation for the treatment of the serious gastro-intestinal infections in the established clinical trials. Said feature is beyond of our expertise of the Author. But he trusts that such testing is essential to implement the therapeutic preparation “Mixture” he has used successfully to substantially shorten the recovery times for the patients infected with the Cholera infection in the Russian Federation recently [10]. Basically, the recovery time has been shortened to 8-9 days vs. 21-56 days if no therapeutic preparation “mixture” has been used [10]. As the Author has planned and reasonably anticipated, the overall result of testing of the proprietary therapeutic “Mixture” showed exceptionally positive results of said proprietary mixture application in all infected with Cholera adults and in all infected children [10]. The infection, which has been confirmed to be the Cholera infection by the State Epidemiologists and Microbiologists who immediately attended the clinics of the Saratov State Medical University during said epidemiological outbreak, noted in the recently published article [10].

The results of the treatment with Ampicillin and the application of the proprietary therapeutic preparation Mixture showed very fast and definite recovery of all infected patients. The treated disease (we were not informed about cases of untreated infection in said geographical area) stopped on the eight day in all infected patients. On the ninth day, we were allowed to get certain images of the patient’s intestinal status from the specialists of Saratov State Medical University [10].

Therefore, the Author feels good per this his expansion to the therapeutic area besides the major business directions he already has taken in the manufacture of the carbon negative fuels and the manufacture of the distilled water from the sea water.

Discussion.

As our corporate web site stated there will be the shortage of the fresh water anticipated in the next 10-25 years [16]. The Author is not the medium to predict the timing of that exactly, there might be certain timing deviation in both sides: to make the waiting time shorter or wise versa - LONGER.

The Earth fresh water reserves of Earth are indicated in the picture below (Fig.1). The evaporated fresh water is not shown in the picture below, but the destiny of that fresh water vapors is very disturbing since in 2010 NASA has called the air CO_2 levels of 400 ppm as “the point of NO return” [16]

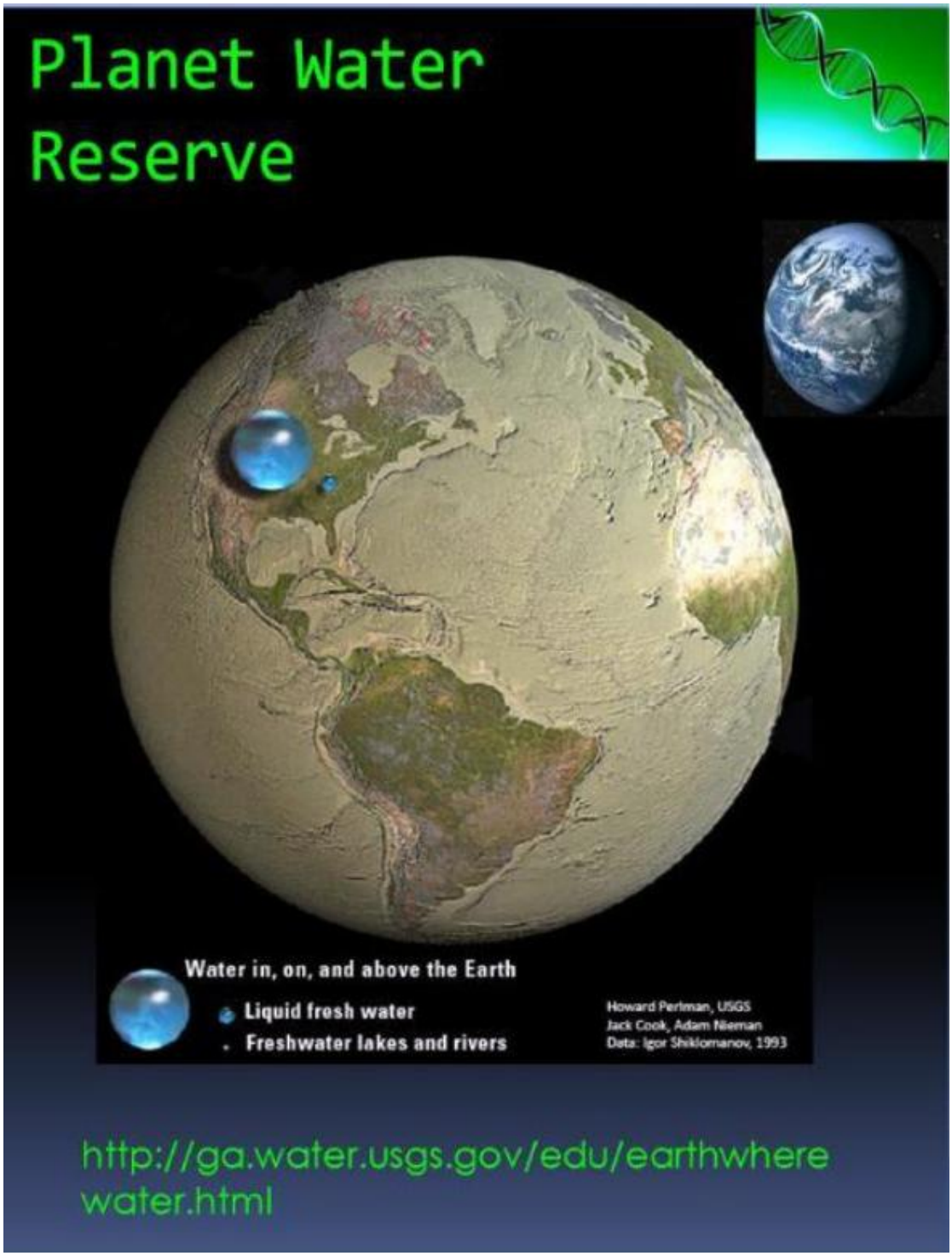


Fig. 1. Earth fresh water reserves as indicated at http://ga.water.usds.gov./edu/earthwherewater.html [1,3,16].

The shown below picture (Fig. 2) provides the details of our ecological concerns with the availability of the fresh water in the future for the livestock

manufacture and the crop manufacture, predicting certain time of Global food starvation on Earth as that was described in detail at [16].

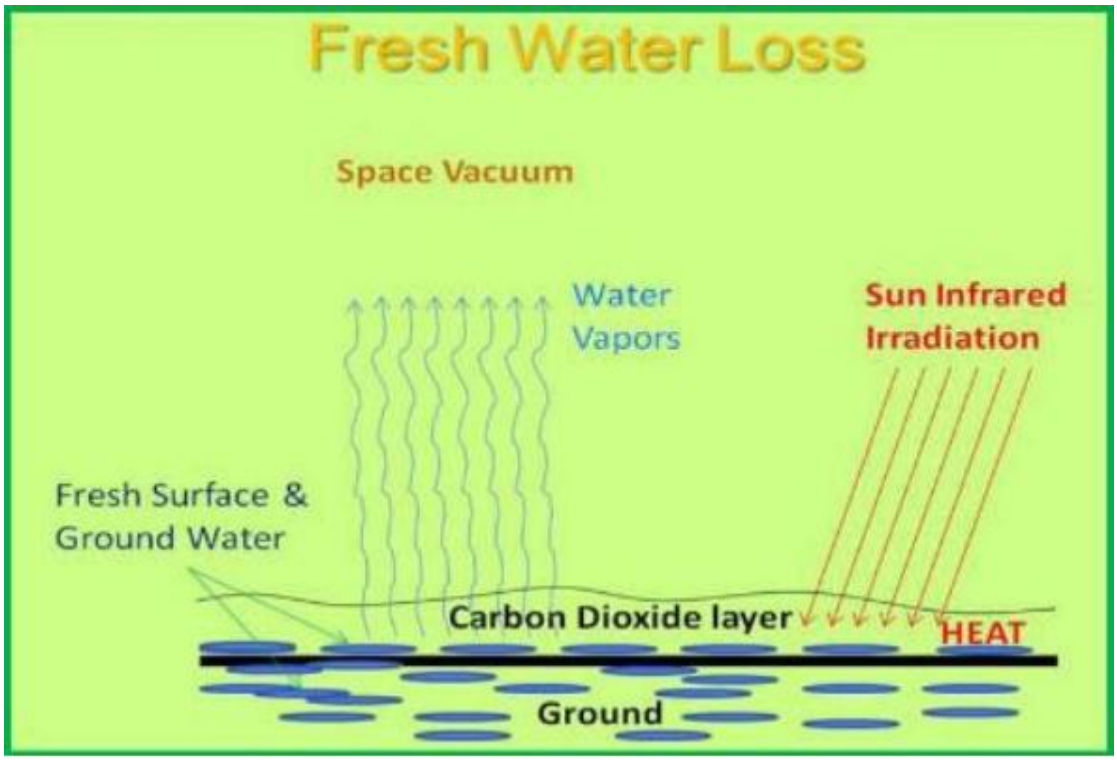


Fig. 2. The mechanism of the fresh water vapors loss to the Space vacuum [16].

Basically as the Author detailed at [16] the air CO_2 at the levels above 400 ppm significantly changes the amount of the fresh water on our planet. As that has been known before that the CO_2 selectively absorbs Solar infra red energy, which at the point of absorption is converted into the heat energy. The air CO_2 as the heaviest gas in the air blend ($1m^3$ of CO_2 is 1.997 g at the average air gases mix density of 1.2 g/m^3) forms the layer just above the ground known as the fresh water refuge. Therefore the trapped in the Ground water gets evaporated there and adds to the air fresh water vapors. That added amount is these days very high as we might notice the change of the climate everywhere with the prevalence of cloudy and rainy days and unusually high probability of tornadoes and other weather anomalies.

A fresh water evaporation happens easily in the Equator sea areas and therefore might not be anyhow controlled. For instance Mexican Gulf has been the place for the fresh water evaporation always but recently the fresh water evaporation happens more intensively. These days almost never rainy weather in Houston in 1998 is always rainy. What is that? Yes, indeed, the climate change makes changes of the weather, but so abundantly as in Houston? Might be our predictions of the fresh water shortage on Earth will take much shorter time compared to our recent predictions? We do not know the exact thermal conditions on the surface of the Mexican Gulf, specifically does the surface sea water boil and at what temperature or not, but we could see the evaporated water in Houston TEXAS by the increased number of the rainy days especially this year while keeping in mind that the Author came to Houston for his work in 1998 when almost all the days of the year were with the blue TEXAS sky and with no any precipitation. Twenty years was long enough to accumulate so much air CO_2 that it causes fresh water evaporation that much from the Mexican Gulf salty sea water and going into the air one side of which is the outer Space vacuum.

The consequence of the fresh water vapors loss to the outer Space is known as the shortage of livestock and crops. Here we are on that immediately: we are ready to supply the Humankind with the genetically engineered food for the time of the Global starvation anticipated in the next 10-25 years The starvation time is anticipated as about 70 years from the beginning of that [1]. And the Author promises to make the carbon negative food available for everyone as it is written in this article.Therefore the Author is essential for our planet Earth viability and will ask the investors money to fill

the anticipated gap in the supply of the crops and livestock with the carbon negative food supply [16]. The Humankind savior role of the investors is obvious. There has to be the smart guy who might wisely invest the investors moneys to reach the goal of the Humankind savior. Here it is - the Author, who was born form the originally virgin mother and does not look like his father by law - the new “Jesus Christ” who came to save the Earth from what people has been done to the nature starting from the intensive petroleum conversion and burning of the resulting from petroleum fuels.

The progress in the R & D which the Author has reached with the Acetogens-biocatalysts is because the Author was able to use his uniquer electrotransformation / electrofusion generator copy built in 1995 as described before [6]. The history of this generator copy appearing in the US is below. This story is the direct evidence of the Author’s active enterpreneurial spirit waking him up daily.

After getting the Russian Patent 2-005776 [6] the Author started looking for the potential consumers for his electrotransformation technology. In 1995 he got the communication with the BTX, Inc. / Genetronics, Inc. per said electrotransformation Generator. The BTX, Inc. / Genetronics, Inc. was very interested in getting a copy and ordered one. The intent of said company was to try this Generator for the therapy of the Head and Neck Cancers with the toxic anti tumor antibiotics and other anti-tumor preparations supposedly easily entering the tumor cells after treatment of said tumor cells *in vivo* with series of similar to electrotransformation high voltage pulses (cell electrotrotransformation with anti-tumor drugs). So, that company has ordered the copy of said Generator. There was a certain delay in the

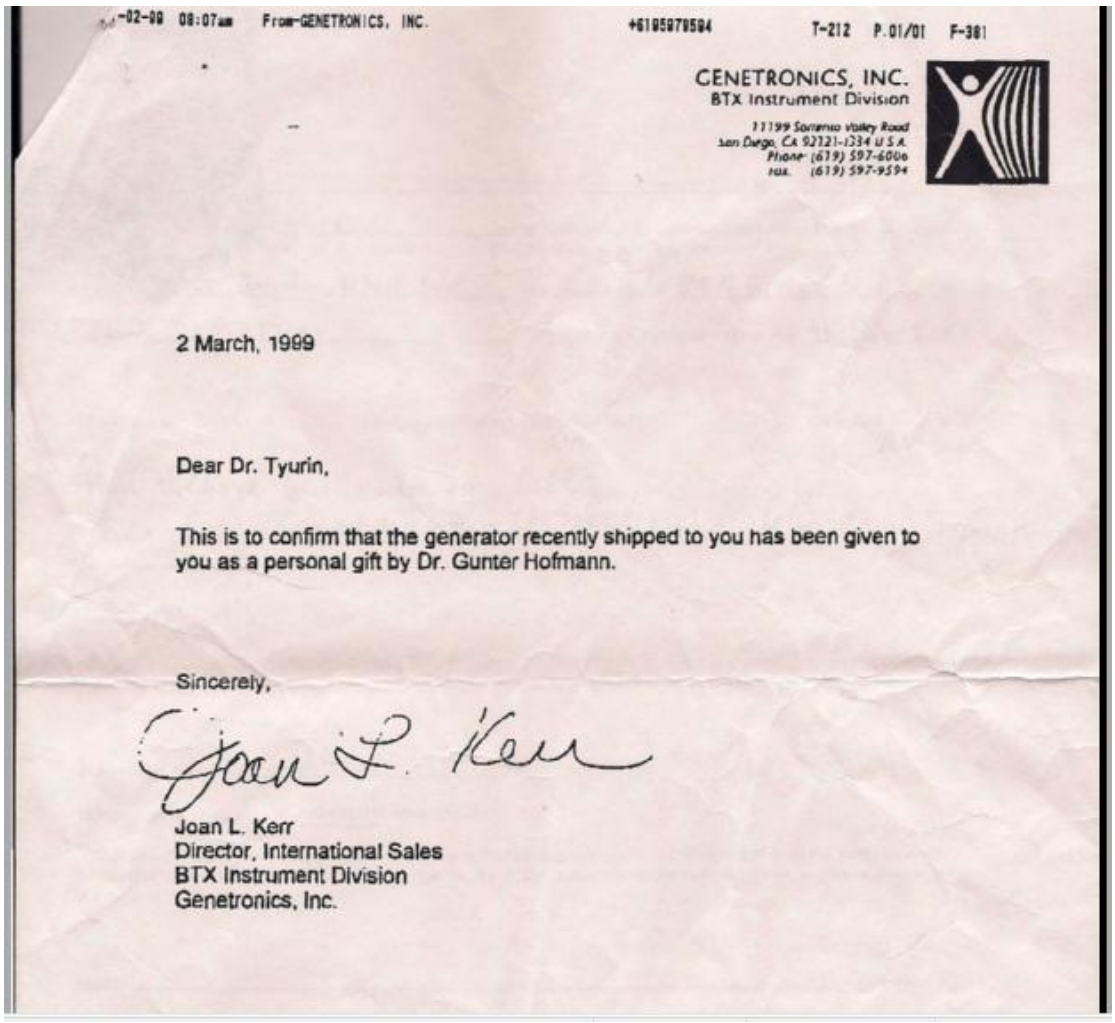
communication related to the total pricing. The Author has made friends with the Third Secretary of the US Embassy at that time in Moscow, the Russian Federation, Mr. James Winkelman, and promptly characterized to him his problem. Mr. Winkelman was very kind and offered help to the Author and the Author got the funds from the company essential for the UPS transportation of the copy of said Generator (100 lbs) from Moscow, the Russian Federation, to San-Diego, CA. In 1999 the Author has requested the CEO of BTX. Inc. / Genetronics, Inc. if the Author might purchase said copy of his Generator for the spare parts. In response he has received the fax from Ms. Joany Kerr, the International Sales Director, that now the Generator becomes the property of the Author (present of the company). Therefore, the Author was able to do his Acetogens strains biocatalysts development using his electrotransformation Generator [6]. The original generator sold to the BTX, Inc. / Genetronics, Inc. in 1995 is shown in Fig. 3 showing the Moscow, the Russian Federation, the apartment Dr. MV Tyurin had in 1995.

Generator Sold to BTX in 1995

Electrodes & Reaction Chamber

Fig.3. Generator [6] copy sold to BTX, Inc./ Genetronics, Inc. in 1995.

Spending a year at Rice University, Dr. Tyurin started missing his electrotarnsformation adventures he had in Moscow, the Russian Federation. He sent a letter to BTX, Inc. / Genetronics, Inc. CEO, Executive Chairman, President Dr. Gunter A. Hoffman, asking if said purchased in 1995 from Moscow, the Russian Federation, Generator could be sold back to Dr. MV Tyurin as the source of spare parts. In response Dr. MV Tyurin got the fax from Ms. Joan (Joany for the friends) Kerr, the BTX, Inc. / Genetronics, Inc. International Sales Director, as shown in Fig. 4.



-02-99 08:07am From-GENETRONICS, INC. +6195979594 T-212 P.01/01 F-381

GENETRONICS, INC.
BTX Instrument Division
11199 Sorrento Valley Road
San Diego, CA 92121-1334 U.S.A.
Phone: (619) 597-6006
FAX (619) 597-9594

2 March, 1999

Dear Dr. Tyurin,

This is to confirm that the generator recently shipped to you has been given to you as a personal gift by Dr. Gunter Hofmann.

Sincerely,

Joan L. Kerr
Director, International Sales
BTX Instrument Division
Genetronics, Inc.

Fig. 4. Dr MV Tyurin has gotten his access to his electrotransformation / electrofusion Generator [6,11].

The essential need for said Generator was determined by the Author's observations, that Acetogen cells posses extremely high internal cell electric capacitance. For example, the standard 50 microliters cell sample of the Acetogen cell suspension had the electric capacitance of about 8 micro Farads vs. standard *E. coli* 50 microliter cell sample having the electric capacitance of 50 nano Farads. The design of the electric circuit of the Author's electrotransformation Generator allowed the electric treatment of the cell samples with very high internal capacitance, like in the case of Acetogens [1,2,11,16]. Fig. 7 shows the distortion of the shape of the high voltage exponential or square pulses, created by the widely used in the laboratories world-wide Bio-Rad, Inc. or BTX, Inc. electroporation generators.

Fig. 5. Distortion of the original square of exponential high-voltatge electric pulse in the widely used electroporation generators made by Bio-Rad, Inc. or BTX, Inc.

Fig. 6 shows the basics of the electronics design of the output cascades of the Bio-Rad, Inc. or BTX, Inc. widely used in the laboratories around the World electroporation generators.

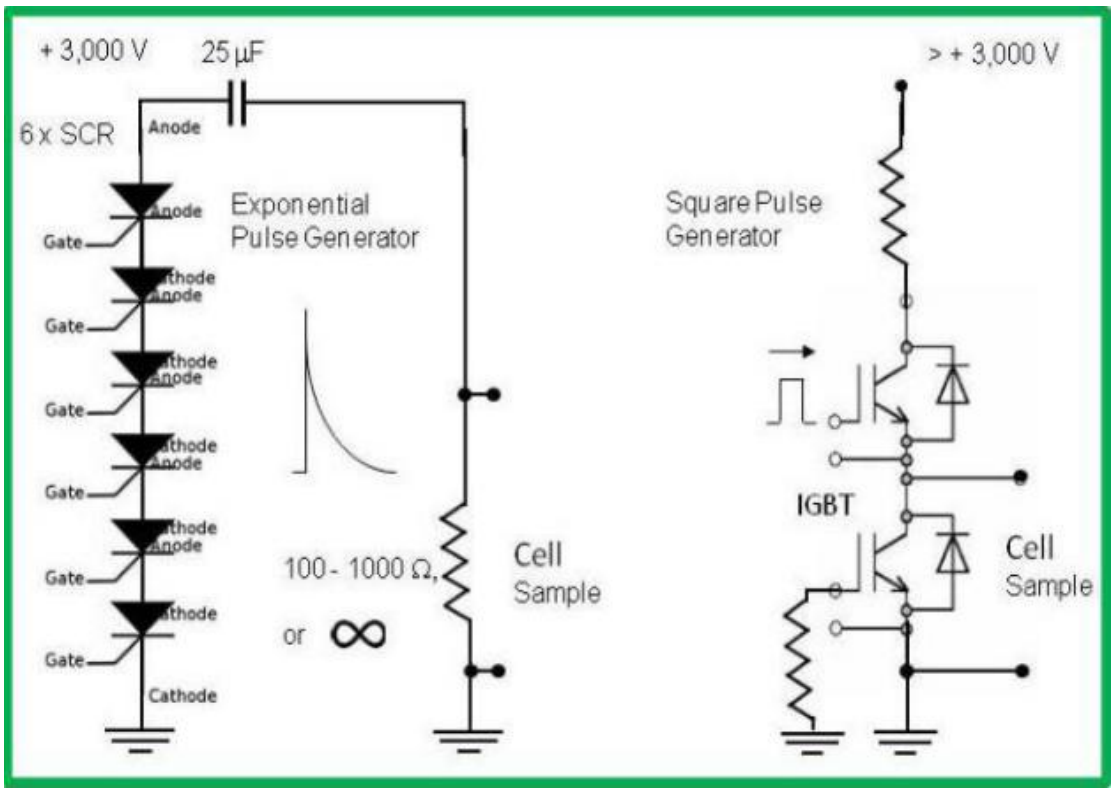


Fig. 6. Electronics details of the power output cascades of the standard laboratory generators for cell electroporation: Square pulse output (BTX, Inc. generator) or exponential decay pulse output (Bio-Rad, Inc. generator).

The Author never had said pulse distortion problems by the high electric capacitance of the target cell samples like Acetogens due to the principally different electronics design of his electrotransformation / electrofusion Generators [6,11,16] as Fig. 7 shows.

Fig. 7. Electrotransfpormation / electrofusion Generator invented by the Author [6,11].

It is extremely important, that the design of the electronic scheme shown in Fig. 10 allowed the generation of the secondary oscillations [2-7] by the to be electrotransformed cells of Acetogens during the standard high voltage electrotransformation at the high voltage electric pulse generation by said Generator [6,11], as clearly shown in Fig. 8.

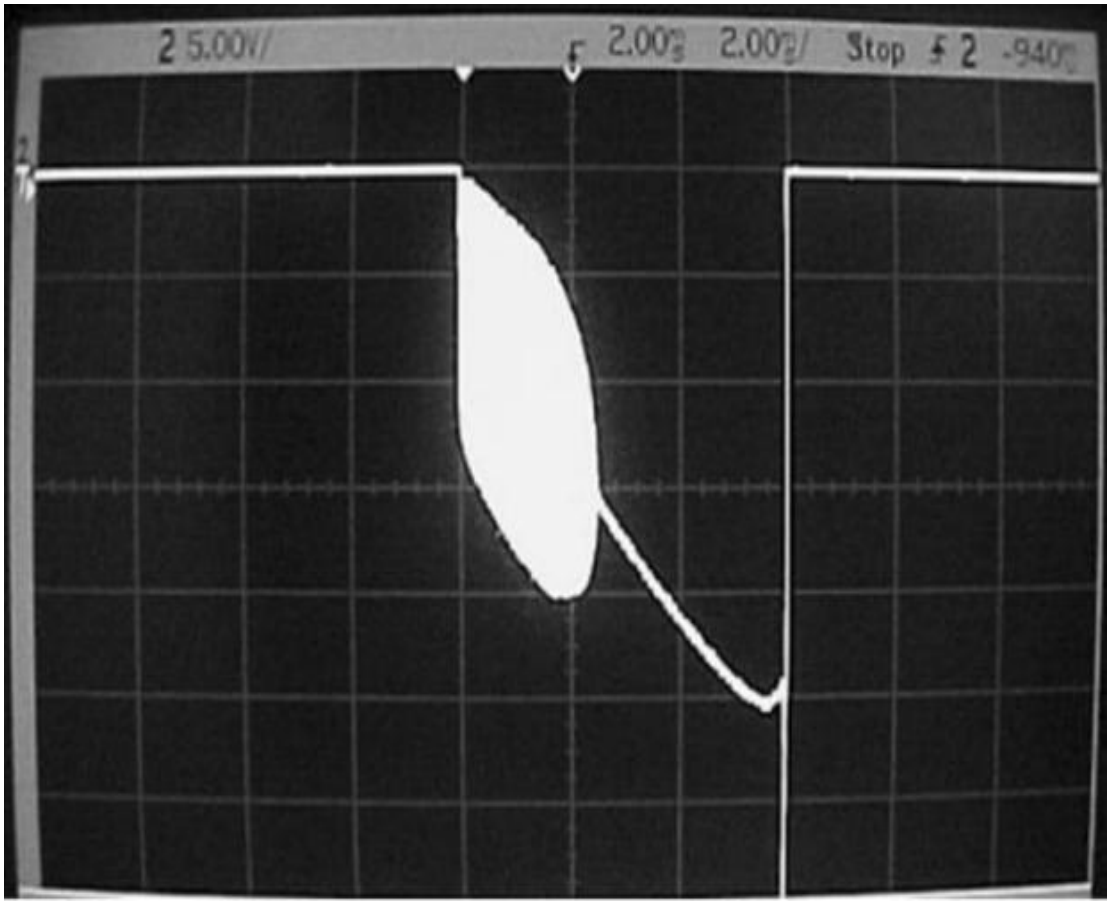


Fig. 8. Secondary oscillations inside the standard square electric pulse (6 ms) generated by the cells of Acetogens [1-10,16] electrotransformed using the Author's Generator [11,16].

Due to the use of said electrotransformation / electrofusion Generator [6,11,16], we were able to create the commercial biocatalysts capable of production of fuel acetone (predecessor of fuel Diacetyl alcohol) or fuel 2,3-Butanediol from air CO_2 via the set of biochemical reactions [1-6,8,11]. The standard biocatalysts look is shown in Fig. 9

Fig. 9. The look of the Acetogen biocatalyst producing acetone from air CO_2 [6,7,8,11,16].

The carbon flux distribution in said Acetogen biocatalyst is shown in Fig. 10.

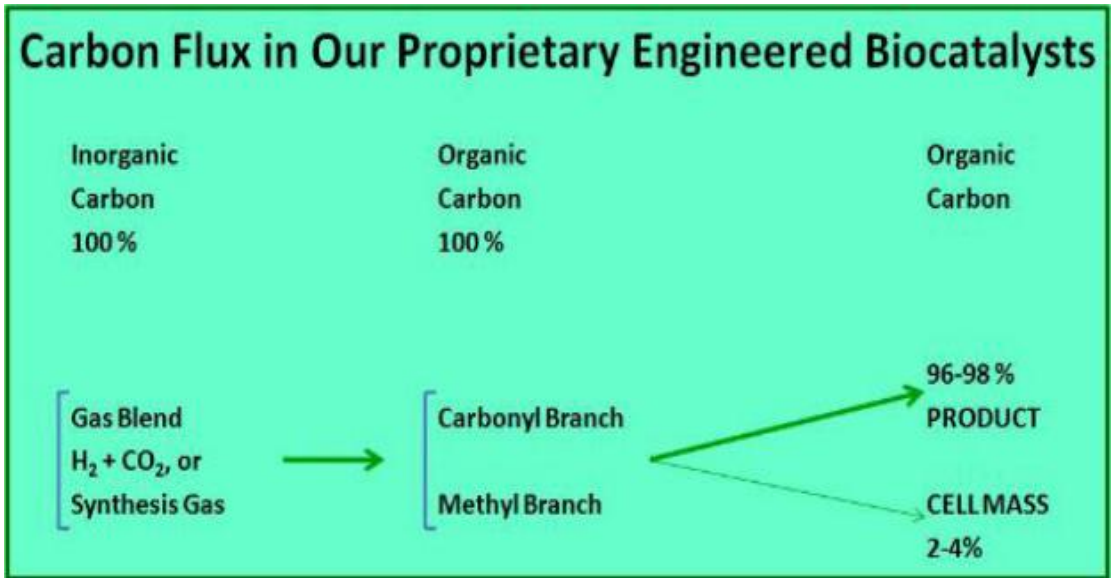


Fig. 10. The carbon flux in the Acetogen biocatalyst converting air CO_2 into acetone [1-1,11,16].

Therefore, now the life of the Author has changed significantly. From achieving his purely scientific and business progress goals now he has to worry much about personal safety and security of himself and of his businesses. Now the Author cannot go out and have a dinner in a restaurant unless he is accompanied by the group of the Security Officers. The business

location has to be secured as much as possible by not only the Security officers, but also by the electromagnetic means of protection from ANY unauthorized invasion of the property by the means of the microwave radar protection. It is costly, but said cost in not compared to the cost of intrusion and damages created by said intrusion. Therefore, the business camp has to be located somewhere where there are no any other businesses operating. Such location invades intruders, unlawful the US border crossers and the respective US military personnel. Therefore, the site electronic protection has to include the means for the control of the potential intruders by the electronic means, as the Author does not know the kind of the intruders. If they are the FBI or something like that, any mechanical or the company Safety Officers checking will caused the length of the lawsuits which the Author would not be able to win, etc.

Now the Author has to be concerned about the quality and safety of the food he consumes to avoid food poisoning. That generates a lot of safety procedures and expenses related to that. For example, now the Author cannot go shopping as he did before. He has to arrange the food and other merchandise delivery on the corporate site, to check the vehicles delivering that, and then to organize the brought produce checking and consumption at the corporate site. That is not easy, that is time consuming and money consuming. But the overall gaol is still very simple - to save the Planet and to make moneys on that saving of the Planet. A lot of things therefore depend on the kind of people who will work for the Author on his business site. They have to be honest to ensure the proper testing and the delivery efforts as above.

The medical care. There is always the option to get hired the people with the exceptional health. However, the quality of such people as the R & D staff will be limited, etc. Therefore, there is the need to organize express communication between the corporate site and Houston or San-Antinio, if it is in TEXAS, or similar means for the transportation elsewhere. That means that from the short distance of several hundred miles the Author has to get the separate helicopter for the immediate use (the cost of maintenance, inspection, the pilot, insurance, etc.). If this is at above a thousand miles, there has to be the learjet. The cost of one helicopter now is above $1 million. Similar cost is for the learjet, and all of this is just to have someone from the company delivered to the Doctor fast. And also both the learjet and the helicopter require pilots, who's salary is in addition to the cost of the air vehicles.Therefore, now the Author has a lot of problems and said problems appeared right after the said attempted murder the author successfully survived. The Author is not mentioning how many times the KGB in the former Soviet Union tried to kill him, there is not space for that herein.

So, the Author has to be prepared to be in the constant war with the international petroleum corporations now after his attempted murder in Houston TEXAS, USA. For instance, there is the problem of disposal some liquid staff form the fermentors. Imagine, that there might be the Checking City Drain Waste team, which will not be the City Drain Checking team, but a team of the competitors masked as the City Waste Checking Team. Therefore, the Author has to be sure that NO BIOLOGICAL MATERIAL goes to the drain. That means there is the need for the extra expenses on doing that kind of the R & D and the team to do so. There is also the need to control

such team on how they will handle the classified very private materials they will get, and to be sure that they will not get immediately to the competitors. Therefore, now the life of the Author has changed substantially after his attempted murder by SHELL.

The next step in the fuel Diacetyl alcohol use for the Diesel engines fueling will be the offering of the fuel Diacetyl alcohol for the fueling of the commercial air jets. These are the plans yet. We at our corporations will have to develop the substantial corporate security after that mentioned above corporate car totaling /attempted Author's murder accident with the Author's sincere intent to commercialize his Gasoline replacement fuel Isobutanol manufacturing technology [3,4,11,16]. The goal of the Author is to replace all the petroleum-based fuel manufacture on the planet Earth with his carbon negative technologies as that was published in the peer-reviewed journals since the Author did not have enough funds for the US patenting process.

Now after the attempted murder the Author has to take special care of his security. The only car to drive around will be the car with the security driver, which will be also used as the eventual witness of any undesirable interactions with any third party will show up during the car on business. Now, to go on a date with anyone, the author has to use only his corporate car with a security driver - no any privacy, but safe.

Special care has to be taken about the food to consume by the Author and his Senior Executives along with some other personnel associated with access to the secure information on the carbon negative technologies. That creates a lot of problems which have to be addressed immediately. First, the living of said people has to be on the corporate site protected by the special

microwave tools of search and disablement of any third party. This might be the expensive set of radars used for the commercial ships. Radar is based on the intensive microwave irradiation towards the object to be examined for the safety purposes. Using radar microwaves it is possible to find the metal weapons in the clothing of the third parties. That might be possible to disable the electronic systems of any vehicle which harasses said business settlement.

Intensive microwave irradiation eventually causes psycheartic deviations in anyone subjected to that. Said electrically induced hallucinations affect the “damaging” the Author and his businesses capability of any third party not desirable anywhere near said business settlement. Now imagine that the subordinate of the Author decides to share the confidential information on the topics they work during business hours at the corporate sight protected by said radar microwave Security System. Said microwave might be directed at the particular person of interest generated by his previous actions of suspicious behavior to watch said person all the time across the walls made of any construction material. Said walls become completely transparent and allow to watch that person 24/7/365 before said person will be officially fired and removed from the business operations protected site.

So, the food for the corporate consumption will be safe. You might remember that certain poisoning could be added to the food. The properly stored at the grocery store food will have the packages which will be checked by the Security personnel after their delivery. There are the grocery stores around. That might be possible to make the arrangements at the top State Security level on that. That might be possible to arrange the delivery of the

consumer goods from said grocery stores directly to the protected business site. The delivery will be conducted by the store car which will be checked for any interference by the third party. He food will be distributed among the corporate employees during their time they are free from their work.. That will eventually safe a lot of driving time for said workers of the Author and the Author himself. The business site will be cleaned by the Mexicans living nearby after their thorough checking at the entrance.

Classified work will be performed by the foreigners the Author plans to hire. Their mobile phones and other communications tolls will be all recorded during the off work time. The work time will not allow said foreigners to use any personal communications tolls as that will be in the work contract agreements.

Security during the personnel vacations. Said personnel hired by the Author under the work contracts will be advised on the impossibility for them to contact any third party during their vacations. Most likely said vacations have to be performed on the special resorts with the enhanced security unless the Author will desire to occupy himself with the resort sort of industry above his carbon negative and water distilling projects he has to be done over his corporate work for the World and for the US, specifically.

Again, the Author's idea is the raising the venture capital to set up the network of the gas stations in the area nearby with the subsequent distribution of said carbon negative gas stations Nationwide. This is the gift the Author plans to present to the United States which allowed him to run his carbon negative projects and his water distillation projects as planned. Said carbon negative gas stations will additionally serve foods for the customers unlike the

current gas stations do. The food to be served has to be served by the additional personnel as the personnel of the grocery stores. This is all directed to protect the customers time during their attempts to fill the gas tanks of their cars. Then customers will not need to drive to the grocery stores, they could get the food they need right at the carbon negative gas stations. That means said carbon negative gas stations have to have enough space for said grocery operations unlike the current gas stations do.

Thew Carbon Negative Gas Station Plan is below.

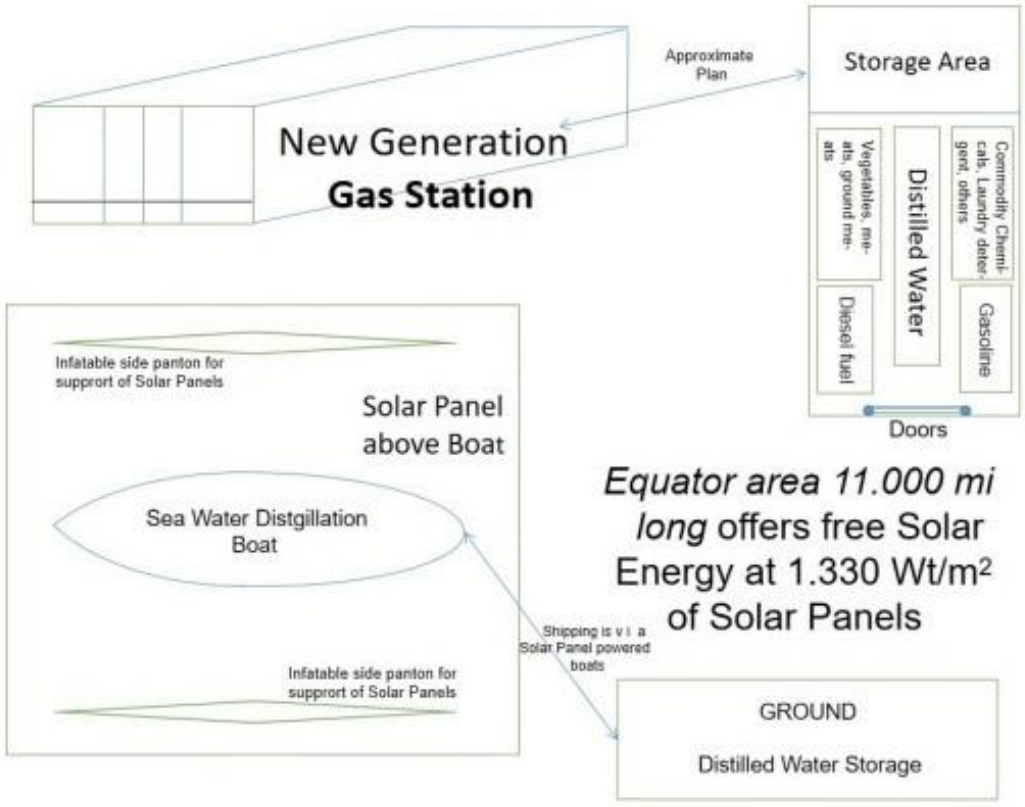


Fig. 11. The Plan of the consumer time saving Carbon Negative Gas Station.

Therefore we have made a substantial proposal to any party interested in our discoveries of the coming to Earth shortage of the fresh water and associated with that shortage of production of crops and livestock, eventually the shortage of the meat-based food for the Humankind.

Tremendous therapeutic effect of the surface polysacchardes produced by the isolated from the intestine of the Author intestinal bifidobacteria B. bifidum, B. breve and B. longum. Said therapeutic effect shortened the recovery time for the damaged by the Cholera infection gastro-intestinal epithelium of young and adult patients suffering from the gastreo-intestinal infection caused by Vibrio cholerae to about 7-9 days instead of normally occurring 21-36 days.

The Author has isolated from his own intestine strains of bifidobacteria B. bifidum, B. breve and B. longum. For the isolation he used the invented by the Author prior to that selective medium for the isolation of bifidobacteria from feces [52] of the following composition, g/l:

Caseine Tryptone	10.0
Yeast Extract	5.0
Avocado/soybean extract	5.0
Meat extract	10.0
Tween 80	1.0 ml
K_2HPO_4	2.0
Ammonium 2-hydroxypropane-1,2,3-tricarboxylate (ammonium citrate tribasic)	2.0
$MgSO_4$ x 7 H_2O	0.2
$MnSO_4$ x 4 H_2O	0.05
Agar-agar powder [53]	
pH prior to autoclaving for 35 min at 0.5 Atm	

Prior poring to Petri dishes [54] the medium after its autoclaving was cooled down to about 42-43 ^oC and the powder of Norfloxacin [55] was

added to the medium aseptically in the laminar cabinet [56] to its final concentration of 200 microgrm/ml of the Selective medium for bifidobacteria isolation.

Said bifidobacteria had extracellular polysaccharides produced abundantly in the liquid medium similar by its composition to the selective medium but the agar-powder and Norfloxacin were omitted. Said polyscacharides were isolated in the amount of 20 g each. Said polycassharides were mixed and taken for the approbation of their intestinal use for the recovery of the patinets which suffered sudden Cholera intestinal infection outbreak in the native city where the Author was born, in Saratov, the Russian Federation. Said epidemiological outbreak was totally controlled by the infectionists of Saratov State Medical University. Said infectionists have made multiple images of the intestinal epithelium of the recovering patients, both children and adults. The polyscacchardes Mixture (we will call it ":Mixture" further) was used to make the solution with the final concentration of each of the three polysaccharides of 0.1 g/l. Said mixture was given by about 5 ml to each recovering adult and child patient (40 and 40 people were treated) along with the antibacterial therapy which was the ampicillin trihydrate tablets of 0.5 grams each tablet two tablets per taking every four hours (6 grams per day per patient). That antibacterial therapy was mandatory fro all affected with the cholera infection. 40 adults from 18 to 72 yo and 40 children from 3 to 176 you were given the "Mixture" to shorten the recovery after the Cholera infection as to investigate the "Mixture" for its possible clinical trials in the US.

Said “Mixture” had tremendous therapeutic effect in shortening the the recovery time of the affected by Cholera epidemiological outbreak in the Saratov region of the Russian Federation. The shortening was to 7-9 days vs regular for Cholera 21-36 days. The images the infectionists from Saratov State Medical University presented to the Author for no money he had to pay to them fro that. Said images are shown below.

Fig. 12. Epithelium of Duodenum of the 3 yo patient, the 7th day of “Mixture” use and antibacterial therapy. This Image was presented to the Author by the infectionists of Saratov State Medical University.

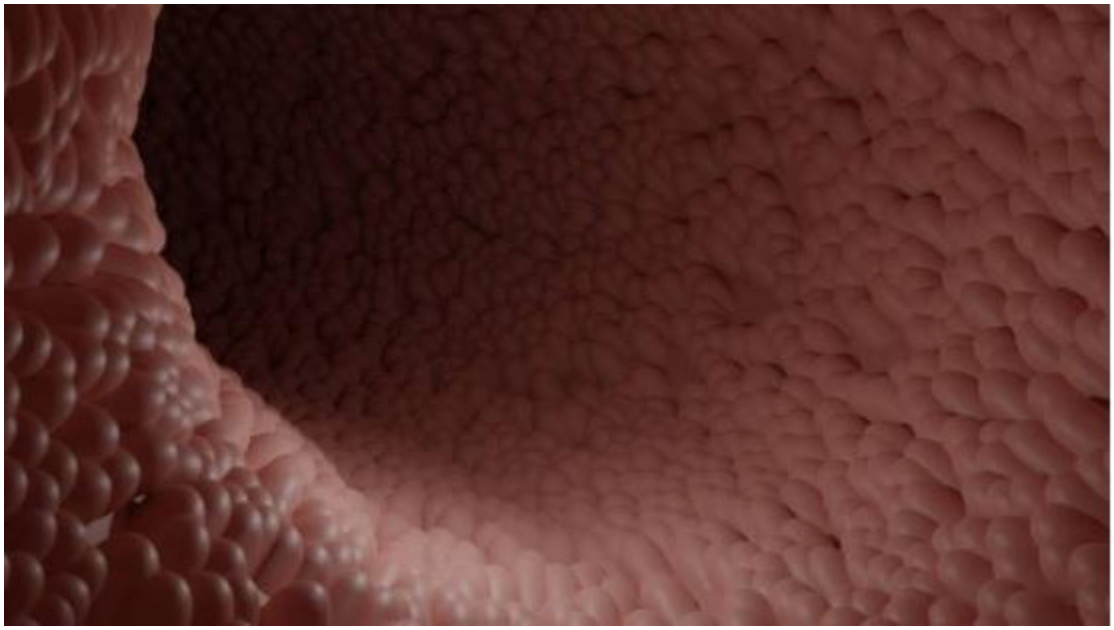


Fig. 14. Ileum epihtelium of the 36 yo patient, 8th day of recovery using “mixture” and antibacterial therapy. This Image was presented to the Author by the infectionists of Saratov State Medical University.

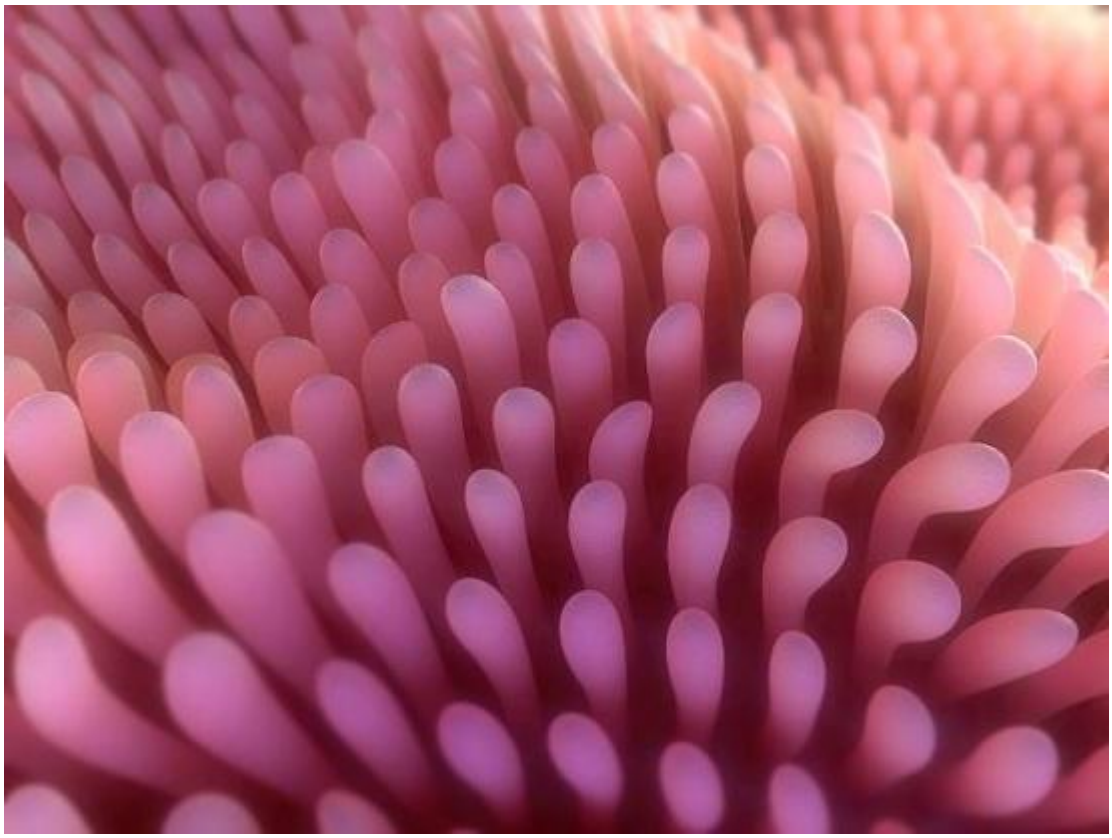


Fig. 15. Lower section of the small intestine of the 56 yo patient. 9th day of taking “mixture” solution along with the antibacterial therapy. This Image was presented to the Author by the infectionists of Saratov State Medical University.

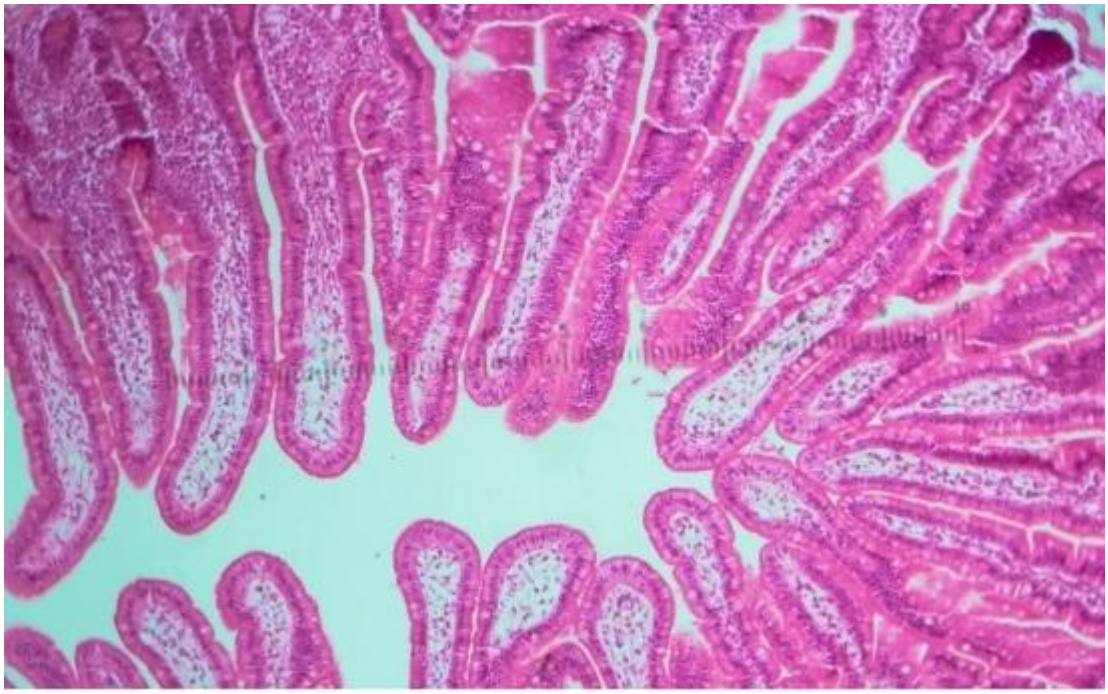


Fig. 16. Stomach of the 13 you patient on the 7th day of taking “Mixture” and the antibacterial therapy. This Image was presented to the Author by the infectionists of Saratov State Medical University.

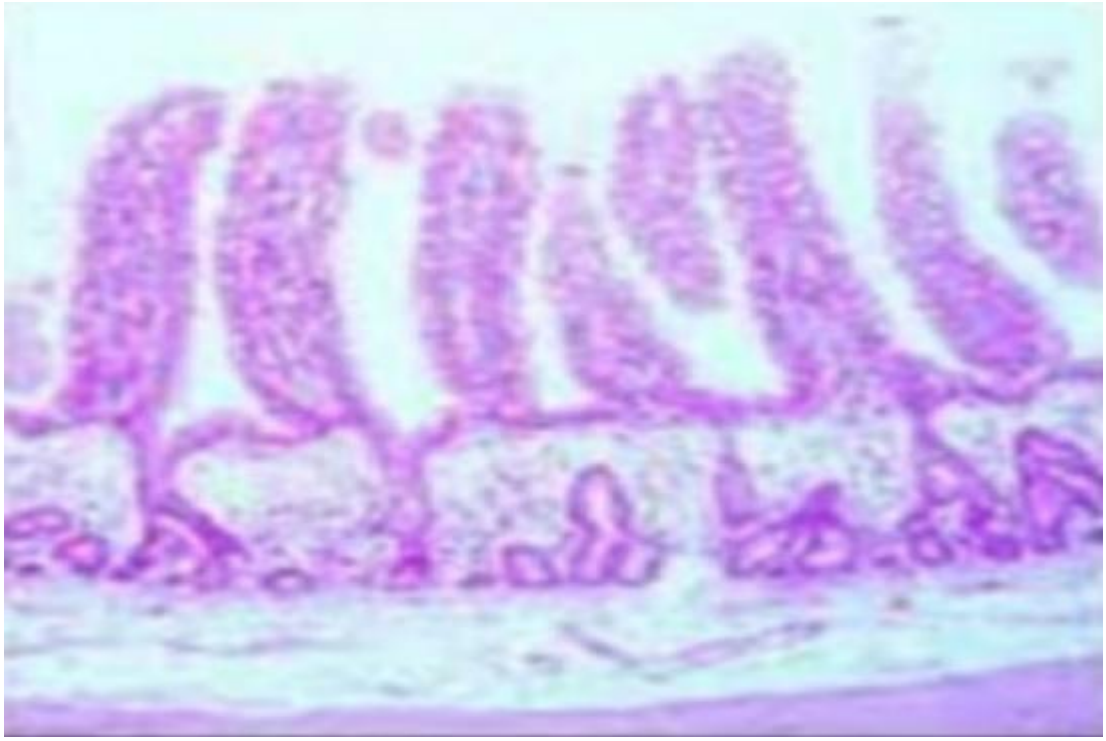


Fig. 17. Stomach of the 26 yo patient on the 8th day of taking “Mixture” along with the antibacterial therapy. This Image was presented to the Author by the infectionists of Saratov State Medical University.

Fig. 18. Duodenum of the 15 yo patient of the 9th day of taking “Mixture” along with the antibacterial therapy. This Image was presented to the Author by the infectionists of Saratov State Medical University.

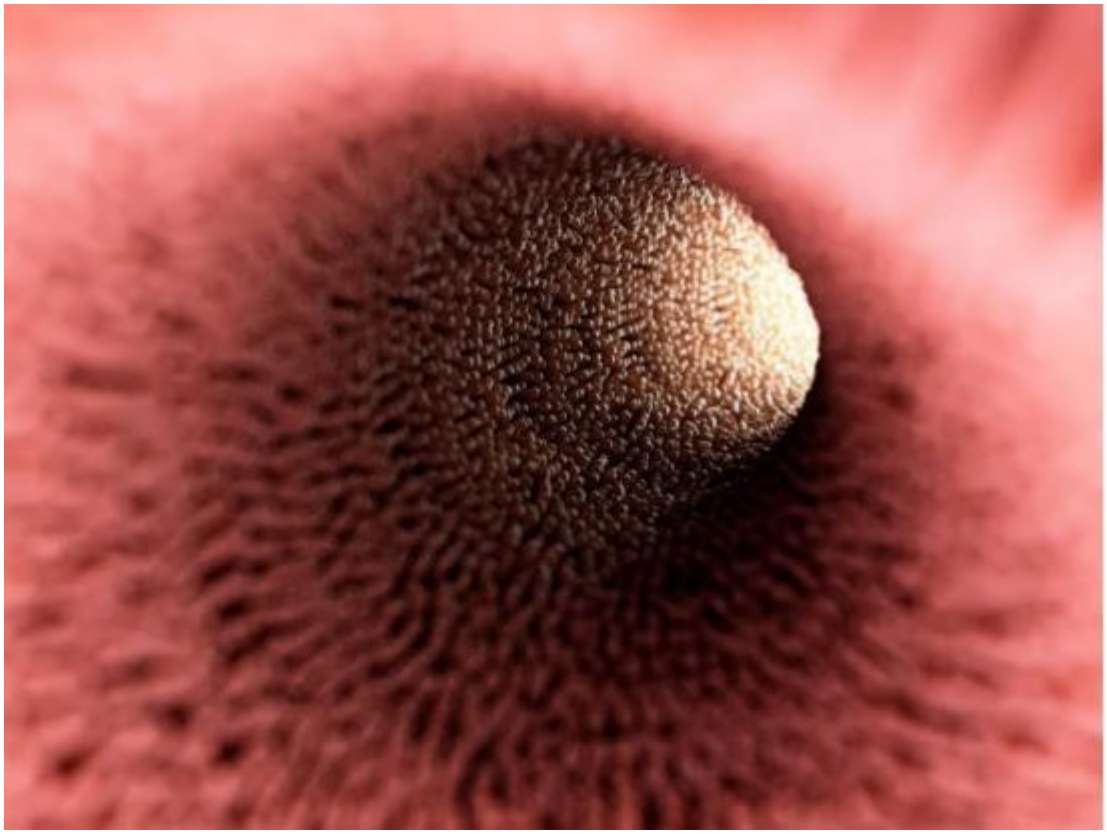


Fig.19. Jejunum of the 39 yo patient on the 9th day of taking the “Mixture” along with the antibacterial therapy. This Image was presented to the Author by the infectionists of Saratov State Medical University.

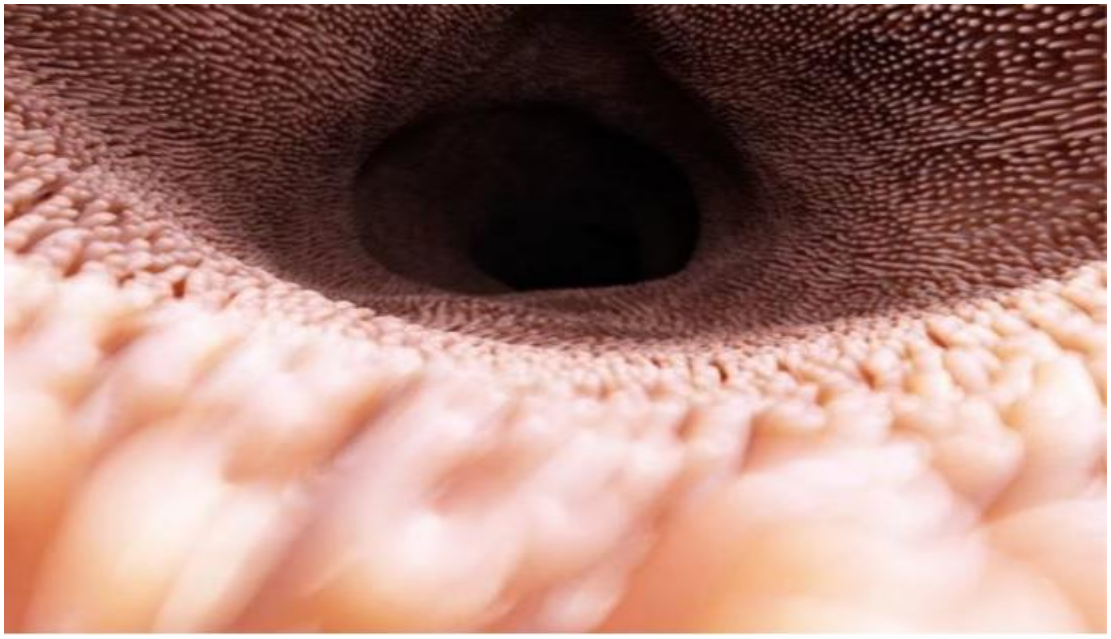


Fig. 20. Doudeno-jejunal junction of the 12 yo patient on the 7th day of taking “Mixture” and the antibacterial therapy. This Image was presented to the Author by the infectionists of Saratov State Medical University.

Fig. 21. Ilium of the 69 yo patient on the 8th day of taking “mixture” and the antibacterial therapy. This Image was presented to the Author by the infectionists of Saratov State Medical University.

Fig. 22. Lower stomach of the 75 yo patient on the 9th day after taking “Mixture” and the antibacterial therapy. This Image was presented to the Author by the infectionists of Saratov State Medical University.

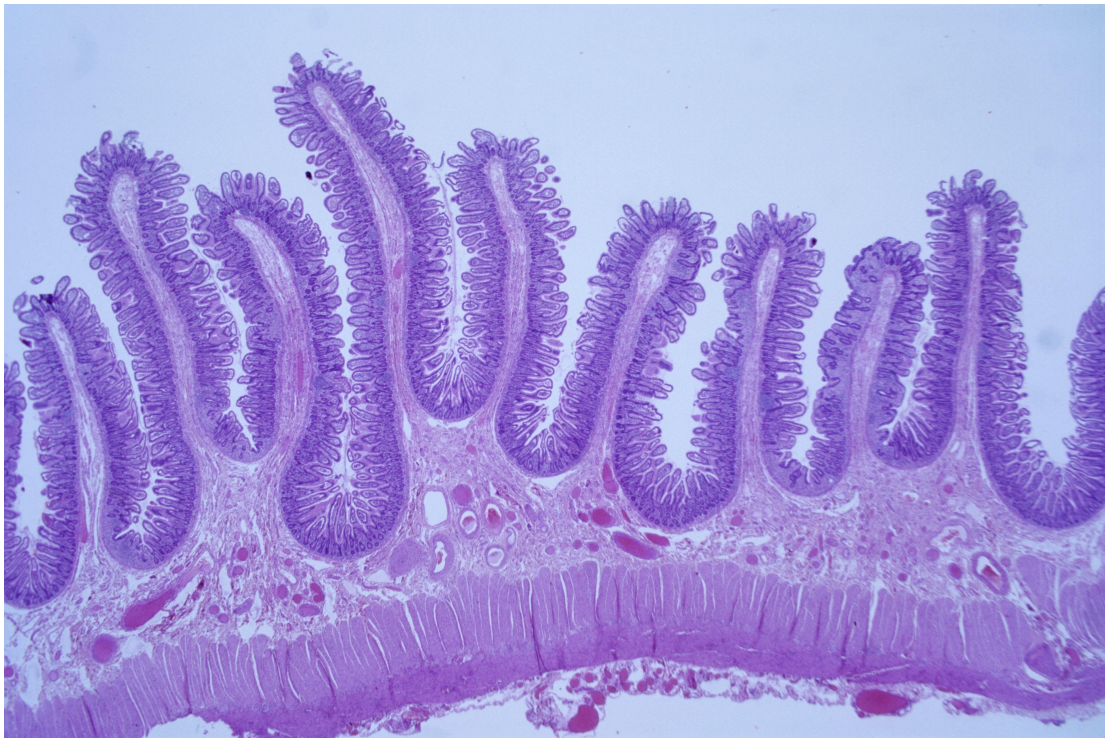


Fig. 23. Duodenum of the 6 yo patient on the 7th day of taking “Mixture” along with the antibacterial therapy. This Image was presented to the Author by the infectionists of Saratov State Medical University.

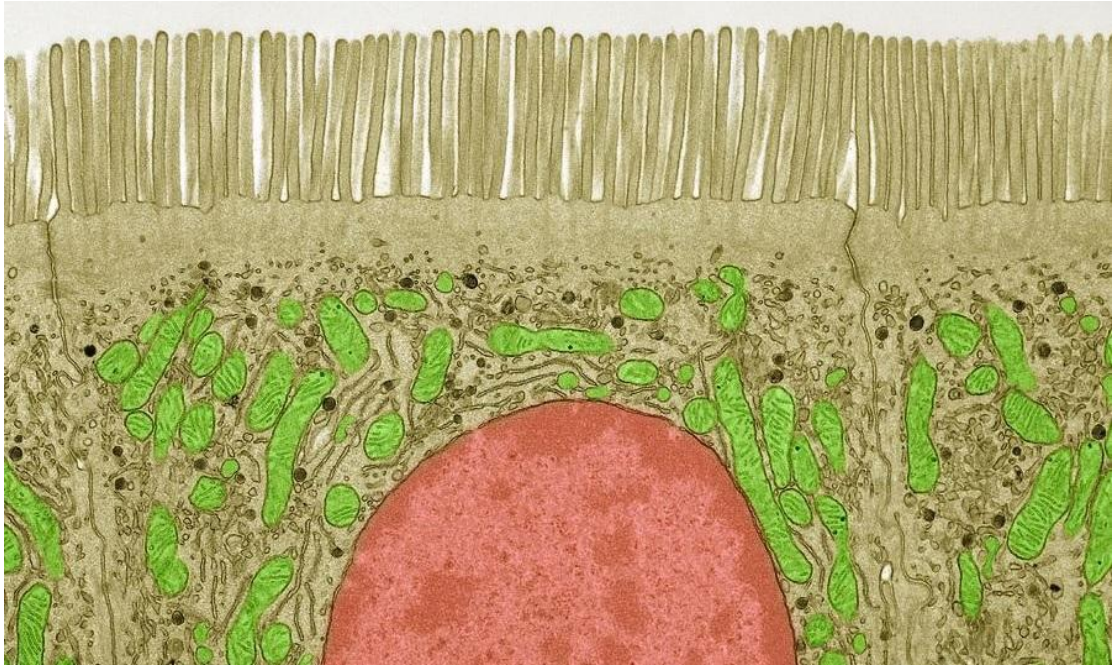


Fig. 24. Ilium of the 46 yo patient on the 8th day of taking “Mixture” alon with he antibacterial therapy. This Image was presented to the Author by the infectionists of Saratov State Medical University.

Presented images display pretty normal state of the intestinal epithelium suggesting that “Mixture” has tremendous therapeutic effect in the gastro-intestinal epihtelium recovery after it was totally damaged by the Cholera infection in the patients of the noted adult and young groups in this epidemiological outbreak in Saratov region of the Russian Federation. Therefore the presented herein data suggest that we might subject of proprietary “Mixture” to the clinical trials in the US and after their approval said “Mixture” might be recommended for the wide National use in all the patinets in which the gastro-intestinal disorders have become prominent and who

cannot find any food at the grocery stores to have their intestines work as in normal people.

We have made our promise to provide the Humankind with the plenty of the genetically engineered food during the times of shortage of the crops and the livestock production. That will strongly depend on our capability to raise essential funds form the investors.

We have made herein our promise made to organize the system of the Carbon Negative Gas Stations (Fig. 11) around the United States. The purpose of said Carbon Negative Gas Stations will be to ensure the customers get enough carbon negative Gasoline and the Diesel fuel. To save precious time of our customers we offered to the public the Carbon Negative Gas Stations combined with the kind of the grocery stores offering to buy the foods from the regular grocery stores. During the anticipated time of shortage of the crops and the livestock production due to the shortage of the fresh water water we have offered to compensate said shortage of the crops and the livestock production by the our own production of the genetically engineered foods based on the carbon dioxide consuming genetically engineered fungi for the eventual sales at said Carbon Negative Gas Stations. Basically this is our own step in the wear with the International Petroleum Corporations started by SHELL via the attempt to kill the Author. The Author has discovered the absence of any civil and criminal laws in the State of Texas where the Governor is Mr. Gregg Abbott who will eventually suffer from the expansion of the Author's intent to find the [proper federal laws in the US Supreme Court where he is eventually going to bring this case of the attempted killing of the Author by the based in Texas International Petroleum

Corporation SHELL as stated in the respective Police Report of the Houston Police Department.

Genetically engineered foods [48].

Genetically engineered foods have had their DNA changed using genes from other plants or animals. Scientists take the gene for a desired trait in one plant or animal, and they insert that gene into a cell of another plant or animal.

Genetic engineering can be done with plants, animals, or bacteria and other very small organisms. Genetic engineering allows scientists to move desired genes from one plant or animal into another. Genes can also be moved from an animal to a plant or vice versa. Another name for this is genetically modified organisms, or GMOs.

The process to create GE foods is different than selective breeding. This involves selecting plants or animals with desired traits and breeding them. Over time, this results in offspring with those desired traits.

One of the problems with selective breeding is that it can also result in traits that are not desired. Genetic engineering allows scientists to select one specific gene to implant. This avoids introducing other genes with undesirable traits. Genetic engineering also helps speed up the process of creating new foods with desired traits.

The possible benefits of genetic engineering include:

- More nutritious food
- Tastier food
- Disease- and drought-resistant plants that require fewer environmental resources (such as water and fertilizer)
- Less use of pesticides
- Increased supply of food with reduced cost and longer shelf life
- Faster growing plants and animals

- Food with more desirable traits, such as potatoes that produce less of a cancer-causing substance when fried
- Medicinal foods that could be used as vaccines or other medicines

Some people have expressed concerns about GE foods, such as:

- Creation of foods that can cause an allergic or toxic reaction
- Unexpected or harmful genetic changes
- Inadvertent transfer of genes from one GM plant or animal to another plant or animal not intended for genetic modification
- Foods that are less nutritious

These concerns have thus far been unfounded. None of the GE foods used today have caused any of these problems. The US Food and Drug Administration (FDA) assesses all GE foods to make sure they are safe before allowing them to be sold. In addition to the FDA, the US Environmental Protection Agency (EPA) and the US Department of Agriculture (USDA) regulate bioengineered plants and animals. They assess the safety of GE foods to humans, animals, plants, and the environment [49].

Article Summary

1. Fresh Water Shortage is anticipated in the next 10 - 25 years.

2. The Solution: replacement of current economy with carbon negative economy and carbon negative fuels use only might take about 70 years.

3. Anticipated Global Starvation on Earth might be resolved via massive manufacture of genetically engineered carbon negative foods.

4. Set of surface polysaccharides produced by *Bifidobacterium bifidum*, *B. breve* and *B. longum* naturally present in the intestine of the Author has remarkable therapeutic effect in restoration of affected by intestinal infection cholera gastro-intestinal epithelium for remarkably short time of 7-9 days instead of normally occurring 21-36 days of the epithelium recovery.

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Chapter 8. Sea Water Distillation as the Way to Fight Fresh Water Loss to the Outer Space

Abstract

Shortage of fresh water is coming to Earth in the next 10-25 years. Shortage of fresh water means the shortage of crops and livestock production. Shortage of that leads to the Global starvation on Earth. The Author offers his new type of the gas stations selling not only the Carbon Negative fuels but also the foods for home cooking including the genetically engineered Carbon Negative foods. Fresh water for laundry and bathing might be also possible. But this will require a lot of political work with the elected officials to do that.

Introduction

That sounds very reasonable to us and we will try to convince all of our readers, might be they will convince the Governmental officials that the shortage of fresh water is really coming very soon, it has already started now from the global changes of the weather, named as Global Warming [1]. What the shortage of the fresh water means and why it is that dangerous since it deserves the quick economic actions of the Senior Executive branch of the US Government to act properly? Shortage of the fresh water means no crops and livestock production. And that is the Global Starvation on Earth to which we have to be prepared. That is why we are addressing this article to the global international and national policy makers.

Now, to the details of my concern. This is a global environmental problem which is determined the by the level of the air CO_2. Who emits air CO_2 and why it is dangerous fro the Earth environment? All living beings emit the air CO_2. All transportation means emit the air CO_2. Who emits more?

Obviously, not the living beings. The transportation is the general producer of the air CO_2. That appears that burning of any kind of fuel in the engines produces the air CO_2. Literally the revolution was the decision of Mr. Elon Mask some time back to initiate the manufacture of the electrically driven car Tesla. That is the solution compared to the internal combustion engines and diesel engines. Dr. Rudof Diesel who has invented the Diesel engines at the beginning of the 20^{th} century never anticipated that his invention brings molecules detected the air CO_2 level as 410 ppm. Now it exceeds 450 ppm [2]. What the chemistry tells us about ppm? It tells us that per 1 million of air gas blends molecules 450 molecules are the air CO_2 molecules [3]. And we not discussing the increased air jet turbines use as the source of the air CO_2 production. The transportation burns fuels produced by the international petroleum corporations from petroleum as the major source of the air CO_2 levels [4]. In weight of solute per volume of solution (w/v or m/v) terms, 1 ppm = 1g m^{-3} = 1 mg L^{-1} = 1 µg $mL^{-1.}$ In weight of solute per weight of solution (w/w or m/m) terms, 1 ppm = 1 mg kg^{-1} = 1 µg g^{-1} [3]. Sometimes when researching concentrations of GHGs, scientists will talk about concentrations of CO_2 or CH_4 in terms of **parts per million** (ppm) or parts per billion (ppb) because the amounts are so small. For example, a concentration of 1 ppm corresponds to 1 part material per 1 million parts of the gas, liquid or solid it is found in [3]

For years scientists have said that if atmospheric levels of air CO_2 reach 450 parts per million (ppm) the planet would heat up by an average of 2 degrees Celsius above pre-industrial levels. They have also said that if the world crosses that threshold, ecosystems worldwide would suffer serious

damage. The IPCC data, however, indicated that levels of 425 to 485 ppm would correspond to a temperature increase of 1.3 to 1.7 degrees C by 2100 [1,2].

CO_2 selectively absorbs the solar infra red energy converting it to heat [5] "CO_2 selectively absorbs solar infra red energy since it has a certain resonance frequency that corresponds to the energy of light. When infra red light hits a CO2 molecule it excites the molecule and causes the molecule to vibrate. This vibration energy is converted to heat." [5].

The following Figs. explain my concern in detail. The last image (Fig. 2) iss solely for the Ground in touch with the bottom layer of CO_2 in the atmosphere air blend. Fig. 1 Is the Governmental understanding of the water Reserves on Earth [6]. Fresh water is painted like very small balls compared to the size of the ocean water bigger ball. Fig. 2 explains our understanding how fresh water evaporates from the Ground the refuge of the fresh water on Earth. Fresh water evaporates to the Space vacuum which is the other side of the atmosphere which is only 400 miles wide layer over the Ground and the ocean / sea salty water.

Fig. 1. Water reserves of Earth [6].

Fig. 2. Loss of the fresh water vapors from the Ground to the Outer Space vacuum [7].

Fig. 2 does not explain the fresh water evaporation from the ocean / sea salty water. We might explain this via the changes in the Houston weather. The Author came to Houston for the first time 25 years back. He was absolutely surprised with the bottomless blue Houston sky which was quite different from the places the Author lived before. Now, 25 years later, we might watch the blue bottomless sky early in the Morning, at about 5- 5:30 AM. Te the sky starts getting covered with the clouds. The clouds are small but in the multitude, then they get condensed into the bigger clouds and such bigger clouds often render atmospheric electricity discharges (thunder, sparks during the thunder). Often rain becomes possible and this is not like that was observed by the Author 25 years back when he came to Houston from

Moscow, the Russian Federation. Where said clouds come from? This is a good question with the especially Southern wind accompanying said change of the Houston weather. Apparently said clouds are the result of the condensed evaporated from the Gulf of Mexico fresh water. The Author is not competent now on the salty water becomes boiling or not, the phenomenon at the excess of the air CO_2 like blanket covering the salty water of the Gulf of Mexico. Rain if possible is always good for the fresh water collection to the Ground but the main issue is the amount of the fresh water evaporated under said conditions from the Gulf of Mexico. With the increase of the air CO_2 over said 25 years to and above 450 ppm causes this change of Houston weather. Similar changes are typical for other locations on Earth. The overall amount of evaporated from Ground and sea / ocean fresh water is tremendously higher than 25 years back. Why 25 years sows up her and there again and again? Because we claim now that the environmental catastrophe on Earth is anticipated in the next 10-25 years from now. This repeated 25 years is given as the example how the global international petroleum corporations increased the air CO_2 level to environmentally critical levels. This is our explanation of Fig. 2 and not painted herein in this article fresh water collection from over the ocean / sea water around the globe.

Let us cite the internet again and in relation on how much Solar light energy and where such Solar energy is applied. [8] sells solar panes to customers around the World, with the special notes on where the sun energy in the most intensive. Fig. 3. shows the areas of the most available and the strongest one.

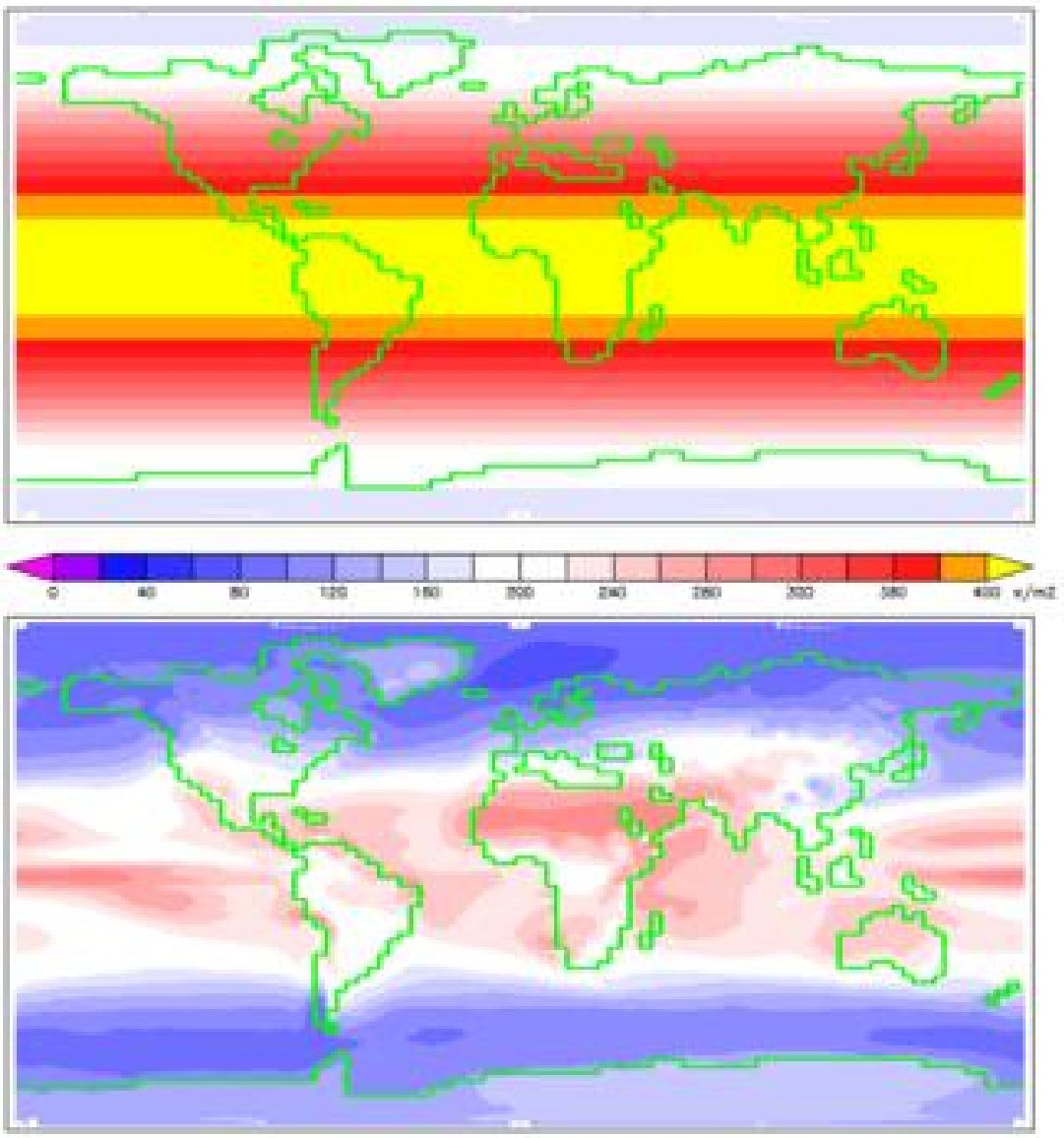

Fig.3. The predominance of the Solar light energy to the Equatorial areas of earth.

As per the recent measurements done by NASA, the average intensity of solar energy that reaches the top atmosphere is about 1,360 watts per square meter in the Equatorial areas of Earth. The solar light energy decreases substantially to the poles of our planet.[9]. For instance when the Author joined Celanese Chemicals Reserach Center in Corpus Christi, TX, the workers he spoke with mentioned him that in Houston area it was possible to collect two harvests of corn per year. While down South from Houston in

McAllen, TX area the farmers already collect three harvests of corn over a year.

The 60-cell solar panels are 5.4 feet long and 3.25 feet wide. They possibly give an output of about 270 watts to 300 watts. They are suitable for residential areas. The size of a 72-cell solar system is the same, just they have an extra row of cells. The average output from 72-cell solar panels ranges between 350 watts to 400 watts. They are used in commercial solar projects and large buildings. The conversion rate of silicon-based solar panels is between 18% and 22% of the total sunlight received by them. It led them to exceed 400 watts of power. The solar panels with the highest efficiency up till now were developed by the National Renewable Energy Laboratory (NREL). It has 39.5% efficiency [9]..

Until now we mainly wrote abut the fresh water losses. The corporate goal of the corporations owner by the Author is to supply enough distilled water made up from the sea water to compensate the coming fresh water shortage projected in the next 10-25 years due to the overproduction of the air CO_2 as discussed above.

As we have discussed before we will have the Gasoline and the Diesel fuel replacements at our new type of gas stations. The Gasoline raplacemetns were discussed before, the Diesel fuel replacements will be as we have discussed that before [14-20].

Materials and Methods

The geographical place to get the most possible Sun light for powering of the solar panels

We projected our corporate facilities near town Brownsville, TX. Thre is also the University of TX system there which will bring to us all the necessary for business operations staff if any will be necessary. Te area near Brownsville is still in the USA and we very much appreciate the presence of the acting federal and local laws in the at area. Obviously down South in Mexico the Sun light is absolutely stronger however the absence of the US laws will not encourage us to have our corporate location outside of the US.

The set of the new the of the gas stations

As we have discussed that before we have the intent to find the investor's funds sufficient enough to organize initially in this area, then Nationwide the set of the new the of the gas stations shown in Fig. 5.

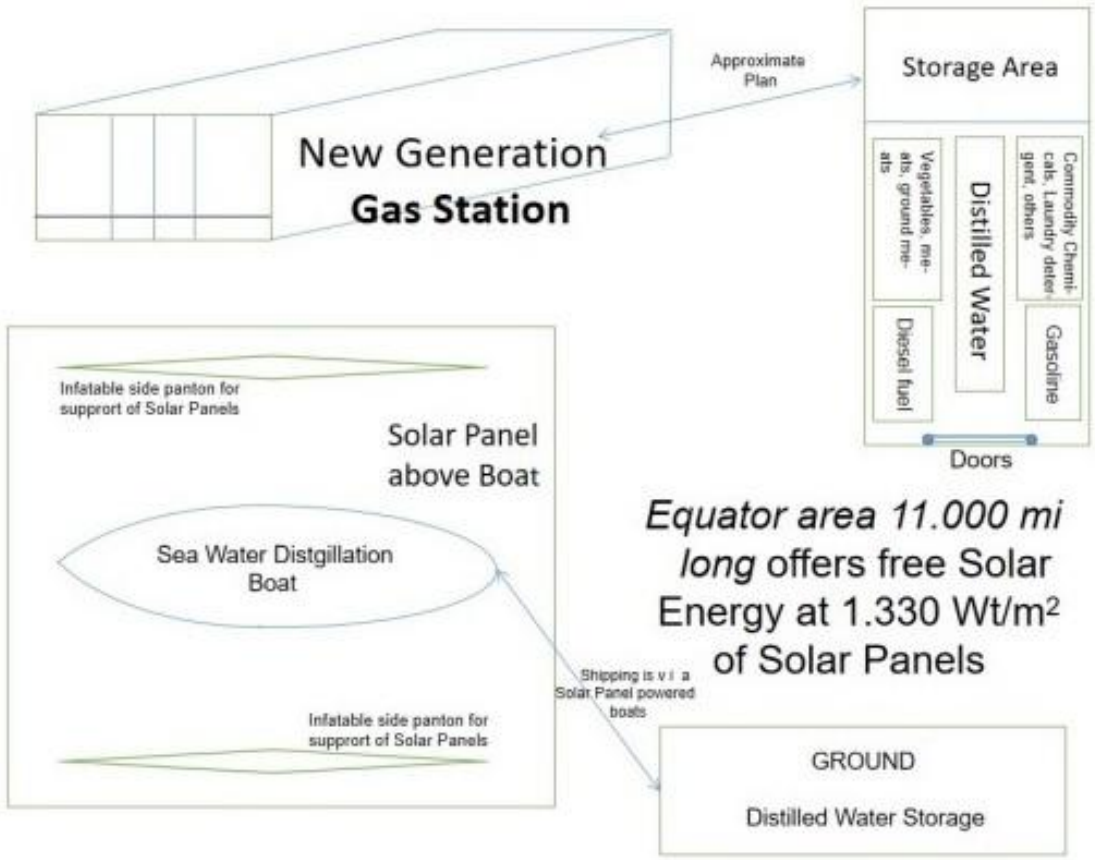

Fig. 5. New type of the gas stations.

As Fig. 5 shows, the new gas station will be selling only Carbon negative fuels to power gasoline and diesel fuel cars / trucks. It has the areas for selling of the Carbon Negative Gasoline replacement and the Diesel fuel replacement mixtures. We have discussed the composition of said fuel mixtures before [10]. It is important that the new type of our gas stations will sell foods fro the home cooking of our valuable customers to save their time for visiting additionally the grocery stores. The food will be presented the regular one and the Carbon Negative genetically engineered food. In the time of the severing of the ecological crisis there will be the shortage of the livestock and the crops manufacturing. To compensate that we plan to organize our corporate efforts to develop the technologies of the manufacturing of the genetically engineered foods which will be Carbon Negative.

To do that we plan to use the regular mushroom cells and to introduce inside them the genes responsible for production of the muscle fibers of lambs and beef. The mastery which we have achieved in the development of the Acetogen-based biocatalysts to manufacture the Carbon Negative fuels, that mastery gives us the promise to create the Carbon Negative mashroom-based genetically engineered foods for sales at the new type of the gas stations for the home cooking of our valuable customers. We are sure that the success in any our direction towards our mail purpose to substitute the missing preducts due to the worsening of said environmental crisis on Earth. Speaking of the genetically engineered meats we plan also the organizing of the muscle contruction efforts (muscle tissues will become stronger - more meat-kike structures) in our aseptic corporate facilities in the stated

Brownsville area. As Fig. 5 shows we will have the Distillation Boats. The main idea is that the equator area is mostly sea / ocean based and the distilled water manufacture has to be in the flatable form. For that purpose we do not plan to have the sea/ ocean locations of said boats far away from thje ground where we will be storing our distilled water for shipping to the new type of the gas stations. The shipping on the ground and in the sea / ocean areas will be done using the transportation tools we will have to create using the DC motors we will get at the discounted prices at the US Shipyards from the decomposed submarines. Therefore the transportation will all be Carbon Negative for our business ventures. That indeed needs the investors money.

As you could see from Fig. 5 there is the storage area in each new type gas station. This area is designed on purpose that we plan to do the system of on-line ordering of goods not currently sold at the new type of the gas stations but needed for our valued customers. The fresh water shortage is already discussed above and we will sell distilled water in excess to the valuable customers. This is for drinking. We are not sure yet where we will get enough fresh water for bathing and laundry purposes. Apparently this will require tremendous amount of investments and we are ready to look for that.

Results

As discussed before will have the corporate facilities nearby the TX town Brownsville very close to the state Mexico and therefore in in the equator area as we have noticed per the amount of the Sun light available for the solar panels sating the corn harvests near McAllen TX area. This seems to be the best location since in Florida the environment is not organized well enough to survive the storms caused by Atlantic Ocean.

As discussed before the sales of the Carbon Negative fuels will help to reduce the air CO_2 level proportional to the use of said Carbon Negative fuels. Burning f said fuels produces the air CO2 as well as the use of the fuels originating from petroleum. The main question we have to discuss at the level of the Executive Branch of the US Government is the balance of the air CO_2 use for the Carbon Negative fuels manufacture and the amount of the Carbon Negative fuels used for the Gasoline and the Diesel fuel engines. The balance has to be on the side of the Carbon Negative fuels overproduction.

We do sincerely anticipate the wide distribution of the new type of the gas stations we have proposed herein. Said gas stations will not only sell the Carbon Negative fuels near Brownsville TX but possible Nationwide and then if successful Wolrd-wide. That obviously depends on the availability of the investor's funds.

The Carbon Negative foods manufacture depends on the availability of the proper Ph. D.-students we pan to have. That amounts determined by our capability to invest our corporate funds into the efforts to invite the successful graduates from the Moscow State University we we already tried to make and will continue to do that. The need for the facility to house said Ph. D. students is obvious. The housing has to be with the perfect survellance systems installed and working to monitor the life of said Ph. D. students during their resting time or any time they will be out of the corporate work. No alcohol consumption or other not pleasant and health damaging habits will be tolerated in the residential area of said students, and the surveillance personnel has to be funded well.

Discussion

As we have stated already our purpose is to resolve the global environmental problem outlined before. Another part of said problem is the existence of the international petroleum corporations on the US soil. Said corporations actively produce air CO_2 at their refineries (the total amount of petroleum refineries on the territory of the continental US is 80) and produce fuel by distilling petroleum at said refineries to manufacture Gasoline and Diesel fuel which will be used at cars / trucks to produce the air CO_2. The United States of America was founded by the immigrants from England, Ireland, Scotland and similar countries. And people eventually had everything to contribute to their country as it is written in the Declaration of Independence accepted for ruling on July 4th 1776. Threfore, the task is now to explain how said international petroleum corporations affect the environment with the purpose to get rid of them. That has to be done by the Executive Office of the US Government since the efforts of ordinary people are not effective. Yu might take a look at the declaration section of this original article to learn about the attempted murder SHELL subjected the Author in response to his proposal to SHELL to commercialize his proprietary technology of gasoline manufacture from the air CO_2 [12].

Fig. 6 outlines the efforts to put simultaneously and at the same time to get rid of the international petroleum corporations.

Fig. 6. the solution to the global environmental crisis is the replacement of the international petroleum corporations by the Carbon Negative corporarions headed by the Author. This figure contains the image of the horizontal bioreactor for the manufacture of the Carbon Negative fuels [13], the new type of the gas stations for sales of carbon negative fuels and Carbon negative genetically engineered foods,, solar panels fro powering the horizontal bioreactors, corporate infrastructure, transportation tools inside the corporations, sea water distillation boats with solar panes fro the sea water distillation, alakaline batteries for the overnight operations, DEC motors fr the movement purposes, the DC electric engines from the US shipyards, the storage facilities for the distilled water, and the distilled water at the new type of gas stations.

About the storage facilities we plan to have. That obviously requires a lot of supportive energy to do the political work with the elected officials to convince the US Government to do the consulting and mentoring of the

African Continent officials to allow our distilled water storage facilities on their territory. Might be there will be the time to occupy the homeless people around the United States and who have the African heritage to do this kind of job on the territory of the African Continent. We are thinking herein of the fresh water from the sea / ocean water for the laundry and bathing purposes. But this is for our employees to be involved actively into this process.

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Declaration Section

Ethics approval and consent to participate.

The Author has received all the proper documents granting the Ethical Approval and the Consent to Participate from the State of Texas officials. The Author has made sure that the ethical approval and his consent to participate in preparation and submission for publication of this article were properly approved by the respective authorities of the State of Texas.

Consent for publication.

The Author has expressed his complete consent to participate in work with this article and its publication in this Journal.

Availability of data and materials.

The Author makes all his data and materials herein available for any third party. The data and materials might be obtained from the Author at PO Box 300230, Houston, TX, 77340. Email drmtyurin64@gmail.com. If any third party needs any materials used to publish this article, please, do contact the Author.

Competing interests.

This article is another step in the war which has started by SHELL International Petroleum Corporation some time back by attempted murder of the Author. The people hired by SHELL has totaled the Author's corporate car and did some other illegal things to the Author which have concluded the Author that the war with the international petroleum corporations has started already. No Houston FBI or Houston Police investigation of said attempted murder has happened and this is behind the responsibility of the Texas

Governor with all the legal remedies the Author might use in his fight to sue the State and its Governor Gregory Abbott. The attempted murder has the statute of limitations 20 years, and there are jurisdictions above the level of the State of TEXAS. The Author had certain legal problems with the at that time Attorney General of the State of Texas in 2013, now Texas Governor, Greg Abbott and the Author is going to resolve all the legal problems with the Texas Governor, regardless would he be dismissed or not. The corporate Author's website http://syngasbiofuelsenergy.com [21] was destroyed by the person, the Attorney of Hirsch and Westheimer Law Firm, PC by the last name Levy. She belongs to the same family which owned or owns the grocery stores chain named "Fiesta" in Houston Texas. The Author was unable to find a lawyer in Texas to file the respective federal law suit and recover his corporate website, but the Author has the US Constitutional right to recite this website in the references herein. Therefore the Author has multiple legal problems with the State of Texas and the Author is going to resolve said legal problems at the respective Court level in the US. The Author was already involved into the war which has been started by the International Petroleum Corporation SHELL. The Author has approached SHELL offering them for the commercialization the proprietary technology of Gasoline or Diesel fuel manufacture from the air CO_2, not from petroleum which SHELL and other international petroleum corporations use. SHELL representative met the Author, got his draft of the at that time in publication article on creation Gasoline from the air CO_2 [2]. SHELL hired two Mexicans to kill the Author in the car accident, paying the possibly around $6,000 for this dirty job, which has been done in Houston TEXAS at the US59 down South (9494 Southwest

Fwy). The Houston FBI and the Houston Police were contacted by the Author multiple times over his mobile phone however there was no any detailed and thorough Police or the FBI investigation of said attempted murder of the Author since as the Author trusts, both Houston FBI and Houston Police are totally corrupted by the international petroleum corporations. Therefore any law is not used in the State of Texas to hurt said corporations. Therefore the Author has to look for the law enforcement outside of the State of Texas, at the National level and he will do that to affect the Texas Governor Abbott for his actions of 2013 and have him resign from his position. Therefore the Author has conflict of interests with the State of Texas, TEXAS Governor Gregg Abbott, Texas FBI and Texas Police. Since that time more scientific publications by the Author on the Gasoline and Diesel fuel production from the air CO_2 came out [11-47]. The US patents are extremely expensive, therefore the Author uses instead of patents scientific publications. Publications are as good as the US patents, each the US patent has to claim something better than the Author already did in his scientific publications. The Author working on the Acetogens-biocatalysts has no any competition in the world because of his prior invention, the electroporation / electrofusion Generator, already sold as a sample (with no right for reproduction) to the US corporation BTX, Inc. / Genetronics, Inc. (San-Diego, CA). Said Generator and the invented by the Authorgenome tailoring technology make him with no any competition in the whole World. The Author has conflict of interest with his Ph. D. Supervisor, Professor Boris A. Shenderov, who apparently worked for the KGB in the former Soviet Union. In 1992, when the Author has applied form the first International Passport of the USSR, we went to the local Police department

and set in line much before the International Passport department started working . When the Author has entered said local Police Department he immediately was arrested and jailed in the local prison without any announcement of his fault why he was arrested. The Author has recently changed his job leaving Professor Shenderov and joining the USSR Research Institute GNIIGENETICA. Therfore Prof. Shenderov started making every possible efforts to harm the Author with the use of KGB. Therefore the Author instead of getting his first International Passport of the USSR was arrested and without any notification of the crime he has committed he was arrested and forwarded with the machine guns armed Police workers to the local jail. In the local jail the Author was placed with another five persons, criminals, who knew what for they were arrested and jailed and smoked tobacco heavily right in the prison jail cell with the size of about 5.5 x 5.5 x 5.5 meters (about 10 x 10 x 10 feet). Because of said tobacco smoke the Author became very sick and in five hours after being jailed he asked the God he never prayed to (the Author is the ateist) to take the Author to Haven. The Author wanted to die at said moment. His blood pressure and heart pulse were astonishingly high, and the Author was really sick at said time. He started knocking inside the jail cell to the cell entrance door trying to get attention of the Policemen on duty. But that was not effective and no medical help was rendered by the Police to the Author at the Author's requests. He asked the God to make him dead, he asked God to take him to Haven. Suddenly the Author has heard the God's voice right in the Author's head. The God said in English: "This is not your time to die yet . You have not done your major business yet. Calm down, try to relax and wait till the Police understands that they were mistaken

with you and will release you". Indeed in a few days the Author was released and has received his first International passport of the USSR. In 2001 the Author has recovered that he has being doing wrong things at his work and started working on the Carbon Negative fuels and genetically engineered foods on the base of Acetogens. That was the major business the Russian God told to the Author in 1992 at the jail cell when the Author has asked his God to take him to Haven and die. Therefore the Author has the conflict of interest with his former Ph. D. Supervisor Prof. B. A. Shenderov. The Author states herein that certain articles in the reference section cited Berzin V. Berzin VG was the business partner of the Author during his time at Syngas Biofuels Energy. Inc (2007-2013). He even paid his own $300 to start said business and spoke to his personal attorney to start said business registering it with the state of TX. However Berzin V did not participate in no actual work at said corporation and obviously did not do any contributions to the articles listed in the reference section herein. His authorship was included as such as he paid for said business. That is all the readers want to know. Berzin V. retired at the age of 65 and went to the retirement house which name is kept by him strictly confidential to avoid the Author of contacting him at any time. The Author recites publications where the authors were Drs. M. Kiriukhin and E. Gak. Said authors were paid significant amounts of cash by the Author for doing their research when the Author has hired them in the Russian Federation to do said R & D projects on the Acetogens when the Author was the CEO, Executive Chairman, President of Tyurin Enterprises, LLC.

Funding.

The Author has received no funding. The investors of the Author has read this article draft to his investors and they have decided not to include no funding information as they have stated to the Author. They stated the Author should write “No Funding” per this original article. *No funding.* *No funding was used to prepare and publish this original article*. The available investors have declined to provide their information for this publication. They have suggested to note that the article was prepared and published with no any funding source.

Authors' contributions.

The Author has performed the Conceptualization of the main idea of this original article. The Author has performed the Data curation per this original article. The Author has performed the Formal analysis of all the data used to prepare this original article. The Author has performed the Funding acquisition per this original article. The Author has performed the Investigation per this original article. The Author has created the Methodology per this original article. The Author has performed the Project administration doing that himself. The Author has identified and used the Resources per this original article. The Author has identified and purchased the Software for this original article. The Author has conducted the Supervision, Validation and Visualization. The Author has wrote the original draft of this article. The Author has performed the Writing - review & editing - of this original article. The Author has submitted it. The Author is the only owner of all materials disclosed in this original article. The Author has plans to distribute his proprietary products after their approval as needed. The Author might be contacted for the data and materials at PO Box 300230, Houston, TX, 77230,

drmtyurin64@gmail.com. The Author contributed to the study conception and design. Material preparation, data collection and analysis were performed by the Author. The first draft of the manuscript was written by the Author. The Author read and approved the final manuscript.

Acknowledgements.

The Author does have the other parties to acknowledge. Ms. Joany Kerr, the International Sales Director of BTX, Inc./ Genetronics, Inc., and the CEO of BTX, Inc./ Genetronics, Inc. Dr. Gunter A. Hoffman for giving to the Author his copy of the Electrofusion / Electrotransformation Generator prior to that sold to BTX, Inc./ Genetronics, Inc. The Author confirms herein the help of the Third Secretary of the US Embassy in Moscow at that time (1995) Mr. James Winkelman for his help to receive funds for the transportation of said Generator from Moscow to San-Diego via UPS in 1995. The Author herein confirms help of Dr. Nikita Tamm from the Moscow State University for his help in receiving cash in $ in Moscow, the Russian Federation, from San-Diego, CA in 1995.

Authors' information.

The Author has the B. Sci. In Biological Engineering (1984), M. Sci. In Biology (1985), M. D. in Internal Medicine (1986) (all from Saratov State Medical University, the USSR) in addition to the Ph. D. in Molecular Biology, Molecular Pharmacology, Microbiology (1990) from the USSR Research Institute for Antibiotics (Moscow, the USSR). The Author Dr. Tyurin Michael Vladislavovich has changed his second name from “Vladimirovich” to “Vladislavovich” after his father, Professor, Dr. Tyurin Vladimir Iljich has

changed his first name from “Vladimir” to “Vladislav” in 2017. The Author at his corporations can be reached at PO Box 300230 .in Houston TX 77230 and via Email drmtyurin64@gmail.com.

Originality-Significance Statement

The Author has wrote this original article based on his originality of the business approach and the existing resistance of the International Petroleum corporation to the technology of manufacturing carbon negative fuels to replace their production of fuels originating from petroleum. The reduction of the air CO_2 levels towards the pre-petroleum era of the year 1900 is paramount,since our planet looses fresh water to the outer Space vacuum. NASA has confirmed that in 2010 sating that the Earth has reached the “Point of No Return” to the healthy environmental conditions suitable for life on our planet. The new family of the gas stations selling not only Carbon Negative fuels but also foods for cooking at home and commodity chemicals for the households will save a lot of time for the customers of said new gas stations.